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THE AMERICAN FARMER.

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[NEW SERIES.

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PRIZE ESSAY

ON THE

RENOVATION OF WORN-OUT LANDS,

By EDWARD STABLER,

OF SANDY SPRING, MONTGOMERY COUNTY, MARYLAND.

[The Publisher of the AMERICAN FARMER having offered \$100 for the three best Essays on the above subject, viz: \$50 for the first, \$30 for the second, and \$20 for the third—the Committee appointed for the purpose, consisting of Dr. J. W. THOMPSON, of Delaware, and Judge CHAMBERS, Messrs. C. B. CALVERT, A. BOWIE DAVIS, and N. B. WORTHINGTON, of Maryland, *unanimously* awarded to the following the first prize.]

In submitting the following Essay upon the "Renovation of Worn-out Lands," it is deemed proper to state, that the writer understands the main object in view of the editor of the American Farmer, to be, the eliciting of such information as is best adapted to the wants of the great majority of farmers; those who are dependent on the product of the soil for a support, and whose resources are comparatively limited: for although it may be equally desirable to those with more ample means, to improve their lands at the least expense of time and money, yet the number of such is comparatively small; and it is not perceived why the same plan may not suit both: the one who "lives by the sweat of his brow" improves his ten acres, while he with the "plethoric purse" may in the same time enrich his hundred acres. With the view, therefore, to adapt it to the more numerous class of readers, the effort will be made to condense the essay as much as possible; and so plain, and free from technicalities, that "he that runs may read."

It is almost impossible to establish a theory, or mode of farming, that can be made to suit alike, all localities—of soil, climate, and the facilities of obtaining the various kinds of manure now in use in different sections of the country. But it is believed that with proper energy and industry on the part of farmers, and even with the *present* facilities of transportation, an increase of double if not quadruple the lime, marl and bones might be used to advantage; the two former in many sections of our country are inexhaustible for generations to come:

and a much greater amount of the latter might be obtained in sections where they are not used, but greatly needed, if more attention was paid to their collection and preservation.

The first step I would advise towards the "Renovation of Worn-out Lands," is a complete and thorough draining, both surface and under drains, where the location and nature of the soil renders it too retentive of moisture late in the spring. It retards early seeding—the winter grains and grass roots are very liable to be thrown out and injured by frosts; and on such land the injury from drought is much more severely felt. The writer has not known a case where this operation was performed with ordinary skill and judgment that did not fully repay the expense; and in some cases the product was increased from five to ten-fold.

Drainage.

To go into a full description of the methods used in different sections, to accomplish this most important branch of the husbandman's duty, would require diagrams, and also too much space; nor is it considered necessary: for in the "American Farmer" (which every tiller of the soil *ought* to possess) very full and ample information may be obtained on the subject. A few general observations here may suffice. If the soil is rendered too wet by springs, whose sources are lower than the surrounding land, the drains must be extended to at least the same level, be the distance and depth what they may; or to a sufficient depth below the surface to

admit of under-draining clear of the plow. This may sometimes be effected by going *through the clay sub-soil*, and without much expense of ditching; as the water can then pass off through the under-stratum of gravel or sand.

Wherever the *under drains* will answer the purpose they should be adopted; for the land thus reclaimed is often the most profitable for cultivation; and where the expense of brick, or tile, is too great, or suitable stone cannot be had to construct trunk drains, a good substitute is generally within reach, by 12 to 15 inches in depth of small loose stones; covering first with leaves, straw, or small brush, to prevent filling the interstices with the returned earth. Logs or poles, laid lengthwise, also form good under-drains; but are more liable to clog from decay.

Deep Plowing.

The next important step, in my opinion, in "Renovating Worn-out Lands," is to plow deep, and thus expose a *new surface* to the action of frost and atmospheric influence, in order to *make a soil* in place of the one provided by nature; but which either from cupidity or bad management—perhaps both—man has destroyed. It is considered *one of the most certain means* to attain this desirable end: and although sub-soil plowing is fully approved of, it is considered less important than to break up the earth from 7 to 10 inches, if the subsequent treatment is properly attended to.

The writer is well aware that there is a strong feeling of prejudice in the minds of many individuals against this practice. What are the arguments of the advocates of shallow plowing? They say in so many words, "our soil is only a few inches deep, and if we do not plow shallow we shall turn up so much clay or *dead earth* as to raise no crop at all." If two or three inches of soil is buried in the spring, under a bed of five or six inches of clay, and thus left without further aid, or preparation for a crop that season, the result would generally be as stated. That shallow plowing enables the farmer to get clear much more readily of the little soil or mold he may have on his worn-out lands is susceptible of easy demonstration; nor is it less so, that either in a very *wet* or very *dry* season, the crop from this cause generally suffers.

During the summer months the greater portion of the rains fall hastily; and whenever the ground is not opened and pervious to a sufficient depth to imbibe the whole, before the surplus water can penetrate, and be absorbed by the compact subsoil, a large portion of the surface becomes *fluid*, and rapidly passes off, or "washes away," unless the land is perfectly level. What remains, after being so thoroughly saturated, has a tendency to settle into a compact mass; soon parting with its scanty supply of moisture, under a hot summer's sun, and rendering it impervious to the roots of plants. If a drought succeeds, a soil in such state can afford but a meagre supply of moisture to nourish a crop; and at a period, too, when the greatest amount is needed. Nearly all plants imbibe more or less moisture from the earth by their roots; and if this support is withheld they cannot continue in a healthy and vigorous state: indeed so necessary is this element that many of our grass

seeds and plants will not only vegetate, but grow vigorously for a considerable period, with no other support to their roots than what can be derived from pure water.

I am confident that in most of our lands that have become sterile the cause is to be attributed more to *shallow plowing*, and *washing away* of the little soil they possessed, than to the extraction of the vegetable nutriment, by the growth of plants; in fact, it is almost a necessary consequence of this pernicious practice. If the tolling farmer or planter is able to purchase a dressing of mineral manure, or fortunate enough to scrape together a scanty supply of vegetable matter from the resources of the farm, a large portion of it is carried off by the first dashing rain, to enrich still more the beds of *creeks* and *rivers*.

Having stated some of the disadvantages which attend shallow plowing, we will now briefly enumerate some of the advantages of deep plowing, when judiciously pursued.

In the successful cultivation of all our crops it is necessary that ample *food* be provided, and in an accessible form; and that moisture, equally necessary, be administered, in neither too *great* nor too *small* quantities. This will probably be admitted by all, and it is presumed the admission will also be made that the greatest amount of nourishment derived by all our field crops is from the earth. By deep plowing it rarely occurs that a fall of rain is so great or sudden as completely to *saturate* the body of earth acted on by the plow; and until such is the case but little danger is to be apprehended of "washing away;" and just as little that the plants will soon require a renewal of moisture, caused by evaporation. The soil much longer retains its loose and friable texture, and enables the roots readily to extend in all directions, in search of their appropriate nourishment; for the same reason, deep tilth admits of closer proximity of the plants, without sustaining equal injury from drought, and turning yellow; or *firing*, in common parlance.

I would ask the advocates of shallow plowing, or the *skinning system*, as it has been aptly termed, if they have not observed the beneficial effects of earths taken out of cellars, wells, pits, &c., when applied to very poor land? And have they not observed a luxuriant growth of grass and weeds on ditch-banks and mill-races; even to the highest points, when level enough to retain the moisture that falls? I have often noticed such effects; and have almost uniformly observed, that if earth thus taken from below the surface was capable of being pulverized by frost or tillage, increased fertility was the result. Such being the case, is there any valid reason for supposing, that still nearer the surface, so much difference can exist, that while one will render the same land sterile, the other will positively enrich it? If advantage will result from mixing with the soil, the earth taken from many feet below the surface—and that such is the case I have had repeated evidence, and using it for this express object—I cannot perceive why a portion of the same fertilizing property may not be found in the earth, only a few inches or a foot below the surface. And last, though not least, in the catalogue of advantages, the all-

important item of manure is rendered more available; and consequently the land is both immediately and permanently benefited.

But deep plowing alone, much as it is advocated, will not speedily make poor land rich. It also requires some judgment when and to what extent it should be carried. Lands that are to be plowed much deeper than usual should be broken up in the fall; no crop should be seeded the ensuing season that does not admit of frequent plowing or harrowing; and if PRACTICABLE give it a dressing before planting, (unless previously prepared for the operation, by liming a year or two in advance,) of lime, or some other kind of manure.

These two branches, viz: draining and plowing, are considered important in the system of renovation, and more might be added; but perhaps sufficient space has been devoted to them, with the further remark, that no land with a clay subsoil should be plowed either deep or shallow when in a state too wet to crumble or break freely before the plow. The injury is irreparable, at least for that season, as nothing short of a winter's frost will effectually pulverize it.

Application of Manures.

We will now proceed to the third important step in the process of "renovating worn-out land." The proper kind, and the application of, manures: viz., stable manure, and vegetable matter produced by the farm; lime, marl, bones, ashes, guano, plaster, and turning in green crops.

It may be considered almost an axiom in farming operations that no one should go in debt for any kind of manures, unless in favored situations where the price is very low, and the transportation cheap, (except perhaps for lime,) without first having fully availed himself of all his own resources; and his manure heap, too, should be his first care. No farmer need ever be at a loss for profitable employment for himself and hands in adding to his stock of this all-important requisite to successful operations; and in preventing the loss and waste of what is already accumulated. When not necessarily otherwise engaged, the time is well employed in many situations by hauling the rich earth and decomposed vegetable matter which has accumulated in the marshes, leaves, weeds, &c., and incorporating them with the contents of his barnyard; independent of their own fertilizing properties, they are valuable as absorbents, to receive and retain the more volatile ingredients that otherwise might be lost in the process of fermentation and decomposition; a few bushels of plaster may be used with much advantage for the same object.

It was the maxim of a wise man, who began the world with nothing, and became independent—and that too, without the charge of dishonesty or extortion ever having been alleged against him—that "a penny saved is two pence gained." It is emphatically true, with regard to the saving and judicious application of manure.

As an evidence of what care and attention in regard to making and saving manure will accomplish, it is within the knowledge of the writer, that two loads of manure (with two yoke of oxen) have been hauled out this season, for every

acre of arable land on the farm; and with a small exception, produced on the farm itself, without extraneous aid.

As germane to our present purpose and object, I will here remark, that many farmers whose lands most require "renovating," keep too many horses; in nineteen cases out of twenty, and for nearly all farm purposes, one or two good yoke of oxen are decidedly preferable. They cost no more at first, and will perform twice the labor: save in expense of harness, and still more in keeping; and after working 5 to 6 years under good management, are usually worth more than the first cost, for the shambles.

Marl.—I can say but little from experience, in the use of calcareous manures; but am fully satisfied both by information derived from others, and from personal observation, that wherever it abounds, it might be made a MINE OF WEALTH to the proprietor and the adjacent districts which admit of water transportation.

The only apparent reason why they are not more so, is, either ignorance of its great fertilizing properties, or a lack of the necessary enterprise and industry TO BECOME RICH, when every facility for the purpose is, as it were, laid at their very doors. The quantity of marl required to the acre, to produce much beneficial result, does not admit of extended land transportation; but there are thousands, if not tens of thousands of acres, bordering on and near tide-water, both in this and neighboring States, now thrown out as waste lands, because they will no longer yield even a stinted growth of vegetation; most, if not all of which, might readily be reclaimed by the judicious use of marl; and at one-fourth the cost per acre, that lands in the interior,—originally no better, if so good,—are made to yield 10 to 12 barrels of corn, or 30 to 40 bushels of wheat to the acre. I have been informed by some of the large landed proprietors—not owning, nor residing within less than 8 to 10 miles of the marl beds—that a boat-load of a thousand to twelve hundred bushels of marl, rich in carbonate of lime, could be delivered at many of their landings, at an expense not exceeding \$8 to \$10. Yet not one bushel was ever used!

But as was justly remarked by one of these very intelligent and hospitable gentlemen, "it's no use to preach to a deaf congregation," and a further remark or two will only be added; not altogether without the hope that *something* will eventually "stir them up," and induce a trial at least of this valuable manure. It matters less, how, when, or what quantity of Marl or Lime is applied; only MAKE THE APPLICATION, and that pretty liberally. Its application, like lime, is best made one, two or three years, and on the surface, before breaking up the land; and thus give it the benefit of the winter's frosts and snows to dissolve and incorporate it with the soil.

Lime.—This, next to the proper draining (when necessary: for even lime will not enable us to dispense with it) and deep tillage, I consider the most certain and permanent agent in "renovating worn-out lands," of any substance with which I am acquainted, whether mineral, animal or vegetable; and when it can be obtained at a reasonable cost, even with some miles hauling in addition, it is generally to be pre-

ferred, if only one kind of "bought manure" is to be used. It may, however, be used freely in conjunction with all other manures, and with decided advantage, if done with judgment.

After many years experience in the use of lime, I would advise in all cases where it can be accomplished, to spread it on the surface from 1 to 3 or 4 years before the land is broken up. The effect of a single winter's frosts and rains will more effectually dissolve and bring it into action, and benefit the succeeding crop, as also the land itself, than is attained in a longer period, by plowing it in as soon as applied. In this way, also, a much larger quantity may be safely applied to the same land at a single dressing. As there is no loss to lime from atmospheric influence, it should be kept near the surface: and the proper quantity to use to the best advantage can only be determined by the price, and the state the land may be in, at the time. With a good sod of grass roots to receive it, 100 or even 150 bushels to the acre *will do no harm*: but on stiff clays, with little soil or mold on the surface, 50 bushels would be a very liberal application as a first dressing, if put on immediately after plowing. It would be better to apply a less quantity at first, and renew it as soon as an increased growth of vegetation could be obtained.

When lime is applied in very large quantities, and immediately incorporated with a poor soil, having little or no vegetable matter in it, the effect is to combine with the silicious particles,—abounding more or less in all clay soils,—and form hard compact masses, that are not separated by years of after-tillage. This mode, therefore, to say the least, is like "burying the talent;" for so much capital lies dormant, and neither benefits the farmer or his land. Twenty-five or thirty bushels as a first application, particularly if aided by even a light dressing of vegetable manure, will make a much quicker return for the outlay.

As to the *modus operandi* of lime much has been written, and various if not conflicting theories put forth; nor do all agree as to the most judicious mode of application.

I consider it altogether unnecessary here to attempt any explanation of the chemical changes produced in the soil by its use, or to give my own opinion on the subject, though formed after careful observation and from years experience. To the inexperienced, however, it is of much more importance to be informed *how* to use it to the best advantage. And as previously remarked, it is of still less consequence, *how*, or *when* applied, so THAT IT IS DONE.

Lime will act very beneficially, as I know from experience, on stiff tenacious clays, and so near a state of sterility as scarcely to reproduce the seed sown on them. But if used under such circumstances, and without the aid of any kind of manure, considerable time must elapse before much amelioration of the soil need be expected.

Theory without practice does not often carry much weight with it; and on the mind of the farmer, generally speaking, it acts with less force perhaps than with most other classes in the community; for unless an array of facts, or good evidence, is adduced to inspire confidence,

he is slow to change; the more so, when he knows that even a partial failure in a single crop, from experimenting, will be sensibly felt in his slender income, and perhaps for a year to come. This feeling, to a certain extent at least, is all right and proper; for experiments, to test any new theory, are best undertaken on a limited scale: time may be lost thereby, but money may be saved in the end.

I will now briefly give some account of the practical operation of my theory. My first application of lime to any extent was 200 bushels, mostly air-slaked, hauled 6 miles, and applied to 4 acres; just broken up for a corn crop, and harrowed in. This portion of the field particularly was so thoroughly exhausted by previous bad management that the yield in corn was only some 5 or 6 bushels to the acre; nor was the crop sensibly increased by the lime. As the main object in cultivation was to set the field in grass, the corn was followed by a crop of small grain, and a liberal supply of clover and timothy seed, and plaster: the latter producing no visible effect whatever; and nearly all the grass seed perished, leaving the surface as bare as before. But before the field again came in course for cultivation, the good effect of the lime was so evident by the growth of white clover—a new variety in that vicinity—that I was encouraged to lime the whole field containing about 12 acres, and also including this 4 acres; put on as before, just after breaking up for corn. The crop on this portion was increased fully 5 to 6-fold, over that adjoining, and but recently limed; thus liberally paying all expenses, and has continued ever since to produce profitable crops. Plaster now acts on it with marked effect. The first application was made some 18 to 19 years since; and to test the *durability* of lime, these 4 acres have been kept for experiment, and without the addition of other manure; except a portion, intended for still further experiment. About 2 acres were sown in broad-cast corn, with 200 lbs. Peruvian guano—then followed wheat on the 4 acres, and with 200 lbs. guano to the acre, leaving 2 lands without guano.

The corn was materially benefitted by the guano; but the wheat was *not* benefitted by the previous application of it; though it was nearly or quite doubled, over the two lands left without any guano: the wheat was harvested two years since; and no one could now point out by the growth of the clover, uniformly good on the whole, and equally limed, which portion had and which had no guano—the conclusion is, that the "renovating" effects of lime are, thus far, TEN times as durable as guano; how much longer remains to be seen.

Some nine or ten years since, I determined to reclaim an adjoining field, at whatever cost. I was told long previous by one of my neighbors who sold his farm, and removed to the west, in order to settle on better land, that the attempt would be futile; or, if it ever was made productive, it would cost a great deal more than the land was worth. The prospect *was* forbidding; for the larger portion was as much reduced as could be, by shallow tillage, no manure, no grass seed sown, and constant washing, even to gullies, and producing little else than running briars. It was broken up in the fall and winter, to a

much greater depth than it was ever plowed before; sixty bushels of quick-lime to the acre were applied in the spring, the ground well harrowed and planted in corn; such portions as required it having been well under-drained—some 2 to 3 acres—and which were about the amount that produced anything of a crop, or that more than paid the expense of plowing. A crop of oats and grass seed followed; as it was not considered worth the trouble and expense to put in a crop of wheat, on $\frac{1}{2}$ of the field. After 6 or 7 years, the same field again coming in course, exactly the same plan was pursued, as to plowing and lime; but rather increasing the depth than otherwise.

The crop of corn, though injured by the bud worm, was good—enabling me to do, what I had rarely or never done before, sell from $\frac{1}{2}$ to $\frac{3}{4}$ of the crop. Oats followed, on about $\frac{1}{2}$ of the field, with some 5 or 6 bushels of bones to the acre, and wheat on the balance, with guano: both heavy crops, and lodging over the greater part of the field. Then followed a wheat crop on the whole, manured as much as possible from the barn-yard; and on the balance, a light dressing of guano of some 80 to 100 pounds to the acre.

The average yield of the field was over thirty-three bushels to the acre.

These results are attained with certainty; for every field and lot are accurately surveyed, and the contents noted on the plat of the farm; and the product of this field was kept separate, threshed, and measured by itself. The greater portion suffered from the drought early last year; and the harvesting was badly done, owing to the fallen and tangled state of the grain from a storm, about the time of ripening; but I have no doubt several contiguous acres might have been selected on the lowest ground (the portion under-drained) on which the yield was over 40 bushels to the acre.* This season, the same field yielded the heaviest crop of grass I ever harvested; and even on what was originally the poorest part, there is now a luxuriant crop of second-growth clover, and intended for seed, that is lodging over the whole extent. We will estimate the profit and loss by figures:

To 60 bushels of lime, cost at the kiln 16 cts.....	\$ 9.60
7 years interest (though it paid in pasture in less time).....	4.03
60 bushels of lime, cost at the kiln 14 $\frac{1}{2}$ cts.....	7.50
3 years interest.....	1.35
6 bushels ground bones, at 50 cts.....	3.00
100 pounds guano (African).....	2.00
	\$27.48

CONTRA.

By 33 bushels of wheat, average price sold at \$1.31.....	\$43.23
Estimate increase of corn crop, at least 6 barrels, at \$2, (and entirely owing to the lime).....	12.00
Estimate increase of oat crop.....	8.10
20 bushels, at 40 cts.....	8.10
Estimate increase of hay.....	10.00
1 ton.....	10.00
Estimate value of clover seed, (for there would have been none without the lime,) 1 $\frac{1}{2}$ bushels, at \$4.....	6.00
	79.33
	\$51.75

*It was gleaned with the horse rake, and by the hogs; yet sufficient seed was left on the land to produce this year a bumper crop of wheat with the grass, estimated, by many who saw it, as well worth harvesting.

Making, in round numbers, \$50 per acre in favor of "renovating;" nor is the estimate a forced one. The actual increase of the crops is greater than the amounts assumed; and if a fair average was made of the wheat, in the joint crop of oats and wheat, the aggregate result would be increased some \$5 to \$6 per acre.

There should, perhaps, in the view of some, be a charge for draining, and for hauling and spreading the lime; also for the manure, for the crop of wheat; and for the expense of harvesting the increased crops.

The two former are amply paid for in the increased pasture; and the manure was no more than the actual yield of the land itself, after the use of lime, &c., which are charged in the account, and at more than the cost: and it is believed the increased product in straw and fodder fully repays the expense of harvesting: to say nothing of the present state of the land, as compared to what it was originally. It is now RADICALLY and PERMANENTLY improved.

When lime has been freely used, plaster will generally, if not always, act promptly and efficiently; and thus at a very small expense materially aid in perpetuating the improvement. Previous to its application in this case, plaster was liberally used; but with no visible effect whatever: now, its action is as marked on the same land as I have ever seen anywhere.

Wherever lime can be obtained at a reasonable price—say from 12 to 20 cents per bushel in a caustic state (or at half-price, if air-slaked) with even 5 to 10 miles hauling,—it may be used to advantage on most if not all stiff clay soils.

In some sections these prices are paid, and it is hauled from 15 to 20 miles; and by a class of men unsurpassed for industry and thrift. The writer has known no instance where its use was persevered in, under whatever disadvantage it might be, in which success, to a greater or less extent, did not crown the effort; and many who borrowed money to procure it in the first instance, have mainly by its use become independent; and money lenders themselves.

Bone—composed principally of phosphate of lime and gelatinous animal matter, when crushed or ground, form one of the richest manures. It acts well either alone or with other manures; and is particularly valuable to aid the growth of clover; for this reason, I class it decidedly before guano, at an equal expenditure of money, for "renovating worn-out lands." Although not so prompt in acting, it is far more durable, and more likely to produce a good crop of clover, to turn under. Clover, being almost the only "green crop" that I have ever found much advantage from turning in.

I prefer its use, following the lime, and on the oat crop, at the rate of 6 to 10 bushels—or as much more as the renovator may please, for an increased quantity will do no injury. On the wheat, succeeding the oats, my practice is to apply a light dressing of guano—say 80 to 100 pounds to the acre, to mature and perfect the grain; and only on such portions of the field as the manure from the barn-yard will not extend to. By the time the clover requires the aid of the bone, it will have become sufficiently disintegrated and incorporated with the soil to give the clover a vigorous start; and its effects on

the grass crops is generally more durable than the vegetable manures.

The supply of *ground bones* is a limited one; but when to be had at a reasonable price (usually selling at 40 to 50 cents the bushel) it may be used to advantage on all crops and on all soils; but with decidedly *less* advantage, after passing through the *alembick* of the glue manufacturer; (as I have proved—at least to my satisfaction;) thus depriving it of much of its fertilizing property. It is usually harrowed in with the seed, as it loses less by exposure to the atmosphere than most kinds of putrescent manures.

Guano.—This is one of the most active of all manures; and if the price would justify the application in sufficient quantities it might aid very materially in "renovating worn-out lands." But considering the evanescent nature of its most active principle, ammonia, and the present high market price, viz: the Peruvian at \$60 to \$70—and the more inferior kinds at \$45 to \$55—for the ton of 2,000 pounds, it is much doubted whether the ultimate advantage calculated on by many will be realized. If the Peruvian could be obtained at about *half* this price—and it is believed such would be the case with a fair competition in the Peruvian market—the case might be different.

The writer has made liberal use of guano; and generally to profit, as to the immediate return; but in no case has much benefit been derived beyond the first crop; and rarely was any material effect perceived after the second year.

This opinion, so different from that entertained by some others, is not lightly formed, nor without several years careful observation; and also testing the matter by numerous experiments, and on a scale sufficiently extended to prove the truth or fallacy of the doctrine held by some, that it is only a stimulant. Reference to one experiment may suffice, as they all tend to the same result, and nearly to the same degree.

In a field of some 10 acres, one acre was selected near the middle, and extending through the field, so as to embrace any difference of soil, should there be any. On this acre 200 pounds of Peruvian guano, at a cost of about \$5, were sown with the wheat. Adjoining the guano on one side was manure from the barn-yard, at the rate of 25 cart-loads to the acre; and on the opposite side (separated by an open drain the whole distance) ground bones were applied on the balance of the field, at a cost of \$6 to the acre: the field equally limed two years preceding. There was no material difference in the time or manner of seeding; except that the manure was lightly cross-plowed in, and the guano and bones harrowed in with the wheat.

The yield on the guanoed acre was thirty-five bushels; the adjoining acre with bone, as near as could be estimated by dozens, and compared with the guano, was about 27 bushels; and the manured, about 24 bushels. The season was unusually dry; and the manured portion suffered more from this cause than either of the others; the land being considerably more elevated, and a south exposure.

The field has since been mowed three times; the *first* crop of grass was evidently in favor of

the boned part; the second and third were fully two to one over the guano, and also yielding much heavier crops of clover seed. On a part of one land, 18 bushels to the acre of the finest of the bone were used; on this, the wheat was as heavy as on the guanoed, and the grass generally lodges before harvest, as it also does on much of the adjoining land with 12 bushels of bone.

The action and durability of guano probably vary on different soils; and although it may generally be used to advantage in aid of a single crop, I have as yet no satisfactory evidence that its fertilizing properties are very durable: unless applied in such quantities as may in the end "cost more than it comes to."

Guano should *not* be used with caustic lime, or ashes; nor very soon succeeding their application. It may with decided advantage be mixed with plaster, to fix and retain the ammonia; and for nearly, if not all crops, it is best to sow it broadcast, and *plow* in immediately.

Leached Ashes.—There are few, or none, who are ignorant of the value of this article as manure. But as the supply is rarely if ever equal to the demand, much need not be said on the subject. At 8 to 10 cents per bushel, if the cost of transportation is not too heavy, they may always be profitably used; in durability they are next to lime, and the action immediate. Few comparatively, except within the vicinity of cities or villages, or those with water or railroad facilities, can procure, or afford to use them.

Poudrette.—Much profit has not resulted in the use of this (the merchantable) article, so far as I have observed its effects on my own, or the crops of others. Such as I have purchased has as yet produced but slightly beneficial results on the crops to which it was applied. Its fertilizing property was diffused through such a mass of inert matter that I concluded with half, if not one-third of the expense, more benefit might be derived from the purchase of some other kind of manure.

In the neighborhood of cities, where a supply can be obtained without so much adulteration, its use might be made very profitable.

Turning in Green Crops.—This plan of "renovating worn-out lands" has long been advocated by many. I have also given it a fair trial; and with the exception of *CLOVER* as the green crop, little advantage has resulted from its adoption: *very poor* land, without some extraneous aid, will not produce the green crop worth the turning in. It is questionable whether the same amount of time and labor (supposing the occupant without the means to purchase manure of any kind) could not be better employed on such land, in adding to his stock of manure, by composts prepared from decaying vegetable matter, alluvial soil, &c., &c., abounding more or less on all farms. If the land possess fertility to produce sufficient clover for pasture, the use of plaster either without, or certainly *with* the aid of lime, will, with good management, make it yield a luxuriant crop. But it should be borne in mind that, to improve in this way, little mowing, and less pasturing, must be permitted. The land is not only benefited by what is *turned in*, but is also materially aided in the process of

renovation, by what is *left out*, and on the surface; to shield and protect the soil from a parching sun, prevent throwing out the clover roots by the winter frosts, and washing away of the soil, by heavy dashing rains.

Prevention of Washing.

This brings to mind another matter, though perhaps not strictly "in the bargain," but which is of much more importance than many seem to be aware of; and as yet only incidentally alluded to. It is the *preservation* of the land after it is renovated, from washing away of the soil, and into gullies, and "galled places," as they are called: this is best done by regular water furrows made with the bar-share plow, and throwing the earth on the lower side. I will attempt a brief description of my plan of operations; but without a diagram, some may possibly be at a loss.

The points to *commence* at are determined by the eye; a cheap spirit level, costing but a trifle, will soon give the termination with precision, and the proper inclination. The operator takes a station some 80 to 100 yards distant from the designated point; the assistant, having the staff, with a movable target, and also a bundle of stakes, some 2 to 3 feet long, places one on the ground, and by its side raises the staff and moves the target up or down, to range with the sight from the level: the target is then *raised* 6 inches and confined by a screw; the assistant walks 17 steps, and raises his staff: the operator by merely turning his level, and not otherwise varying its position, soon determines the point for the second stake, by the assistant moving the staff backwards or forwards, (keeping his distance from the first stake,) until the target again ranges with the level; then set another stake, and raising the target six inches at each station throughout the field. One position for the level, if selected with judgment, will serve for 8 or 10 sights; they should be taken in *advance*, and on or near the *supposed* line of the furrow. With a little practice the levelling is done very expeditiously, and by any person of ordinary capacity. When ready for the plow, the leveller walks before it, (the plowman guided by his steps,) picks up the stakes as they are reached, and if necessary by much inequality in the land, varies the line a little between the stakes, still more to preserve the level.

This gives a uniform escape for all surplus water, with a regular fall of about one foot in the hundred. My experience has proved that, if the furrows are not too far apart, (one for each fall of 5 to 6 feet will generally suffice,) they effectually prevent washing; and the gradual descent of the water does not form gullies. They are made directly after seeding wheat—are as carefully attended to as the seeding itself—and remain open until the land is again broken up. They are valuable on all lands liable to wash, and have materially aided in my efforts in "renovating worn-out lands." All the unsightly "gullies and galled places" have disappeared.

Rotation of Crops.

The rotation of crops is also a subject of importance; and it is also one on which much diversity of opinion exists. Nothing short of the concurrent testimony of a neighborhood will

establish one plan as the best: yet in another, a different one has equally strong advocates: for in some sections of the country "the three-field shift" is preferred—in another, five, and a third will adopt the six or seven-field rotation. Different "localities," and other circumstances, may perhaps afford good grounds for this variety of opinion. But, as a general rule, it is believed that where the latter mode is adopted, or nearly so, other circumstances being equal, the farming is better done, is more profitable, and the lands more permanently, if not more rapidly improved. Close pasturing, and "renovating worn-out lands," may do in theory, but are not very likely to succeed in practice. The seven-field rotation certainly admits of a better opportunity to benefit by the aid of the artificial grasses; and whenever they can be successfully invoked the good work is more than half accomplished.

Before taking leave of my readers, the majority of whom perhaps are engaged in agricultural pursuits, I would again briefly recur to the important subject of manures,—one of scarcely less moment to the tiller of the soil, than is the mariner's compass to the tempest-toss'd sailor—for mainly to their agency in some form or other must we be indebted for success in the renovation of worn-out lands. My preference, as may have been seen, is given to lime over all others, when an expenditure of the slender resources of the farm is devoted to this object; and although it is not a panacea, to cure all the ills incident to the calling, nor will it, like the fabled Satyr, "blow hot and cold with the same breath," yet on all soils to which I have seen it applied,—from the stiffest clays to the blowing sands,—does it appear to be a renovator in a greater or less degree: the one it will lighten and mellow, while the other is rendered more compact, and more retentive of moisture. I would therefore strongly advise the use of LIME, as decidedly the most efficient and durable agent for improving most kinds of soils. If its action may be considered comparatively slow, IT IS SURE, in its fertilizing effects; and will generally in the end prove also to be the most economical, whenever it can be obtained at a reasonable price.

The three kinds of "bought manures" most extensively used in this State for improving our worn-out lands (plaster of course excepted) might be classed somewhat like the following: Lime for the *landlord*, guano for the *tenant*, and ground bones for *both*. All may be used to profit under favorable circumstances; but they are believed to differ materially in their relative values, in proportion to the amount of money usually expended, if the improvement of the land is a primary object with the husbandman.

Experience, however, in this, as well as in most other things, is the best teacher; provided we do not pay too dear for it. And without intending in the least degree to check the energy and spirit of agricultural improvement, now so widely extending, I would venture a caution to those who have but little money to expend for the purchase of high-priced manures, to do it rather for such as are *known* to be durable; and which will eventually be the most certain to return both principal and interest. I feel confident all I have expended for lime has been

returned in the increased product of the soil; and with nearer six times six than 6 per cent. interest. If the market value of the land has not been enhanced in equal proportion (most probably the case) it certainly has not *deteriorated* any in *quality*.

As remarked at the beginning of my essay, no exclusive method of improvement is alike suited to all locations and circumstances; but I trust a plan is submitted that will very generally succeed if persevered in; it will not only make the grain but the grass grow; and will at the same time effectually "RENOVATE WORN-OUT LANDS."

EDWARD STABLER.

Harewood, 8th mo., 28, 1848.

Editors American Farmer:

In reply to your note of the 2d instant, advising me that you proposed republishing my Essay on "The Renovation of Worn-out Lands," and the query, if, after thirty years further experience since its publication, it is my wish to revise or change the views therein expressed, I may state that, after a careful reading of the Essay, I do not perceive any necessity or any advantage to result from any modification; subsequent experience has not changed my views in any degree. True, I might have gone more into detail as to experiments, and possibly to advantage; but it was then, and is now, desirable that such a paper should be plain, practical, and as brief as was consistent with the subject treated. Such, an intelligent committee decided the original paper to be, and therefore I do not propose to make any change.

I might also have referred to unsuccessful, as well as to successful, experiments in improving worn-out land; to guard against the first, while advocating the latter. One of the unsuccessful I will briefly refer to, as it involved some capital; (though entered into more by the judgment of others than my own;) it was the purchase of 50 to 60 head of sheep, to aid in the improvement of very poor land. After several years experience I found that plan would not succeed with me; they kept my limited pastures bare by devouring every green thing in summer, and in winter they required good hay, and at times grain, to keep in good health, (though I cut, cured, and stacked weeds for winter food,) as sheep do not thrive on weeds and briars alone. Yet they did aid some to extirpate the *sassifraga*

bushes and briars, at that time very abundant.—From what were lost by disease, and yet more by "the worthless cures," together with the very small amount of manure made, and expense of keep, all idea of "renovating" by sheep husbandry was abandoned.

Others may succeed better in improving poor land who have ample range in mountain and valley, and occasionally sell a buck at fancy prices. A limited number of sheep may be desirable, and even profitable, in wool and mutton on small farms not thoroughly worn-out and exhausted; and profitable also on a large scale, as I have witnessed in Colorado and California from five to ten thousand head in one flock, with *limitless free pasturage* on the public domain, provided no casualty overtakes them,—such as droughts in summer and snows in winter, when tens of thousands perished from starvation, as was the case a year or two since on the plains, especially in California.

EDW. STABLER.

September, 1878.

Sheep Husbandry.

Messrs. Editors American Farmer:

Doubtless you wrote "sheep-owners," instead of "sheep even" as your type make it; and mildly as you put the charge of failing to do them justice in "fathering upon them the claim that sheep 'can make something out of nothing,'" I rather think you have jumped to a conclusion not sustained by my words. I said nothing of "sheep-owners;" and being one myself, would scarcely make such a charge against them as a class.

My controversy is with opinions and not with men. Holding that the highest interest of man individually and collectively is to know the truth and follow it, and feeling perfectly safe in following whereon it may lead, my investigations are conducted with an eye single to its discovery.

So far as I know nobody has, nor is it likely that anybody will, in so many words claim that sheep "can make something out of nothing," nor have I so charged. But attacking what seemed to me an error, and in my opinion a very hurtful one, there occurred to me no better mode of exposing it, than to demonstrate that if the single proposition that "sheep can enrich land" is true, the logical and necessary conclusion is that they "can make something out of nothing," and my opinion still is that from that conclusion there is no escape.

You say truly that "it is no more reasonable to count upon a cow giving milk from her udder which does not first go into her mouth than to expect that sheep can live and thrive upon

bushes, briars and noxious weeds." Yet, there are thousands who not only expect that, but that they will yield a large profit besides enriching their land; not because of having the oft-repeated proverb that "the foot of the sheep is gold," which probably most of them never heard, but that they have been told over and over that "it costs little or nothing to keep them, that they will thrive where no other stock can live, and that, besides enriching their lands, the lambs and wool will be all profit."

So far as my observation goes, these are in effect, and often in these very words, the staple of a large majority of the teachings on sheep husbandry, which reach and influence the masses. My object is the, perhaps, bootless one of endeavoring to rescue legitimate sheep husbandry from the destructive effects of these fallacies and obscurities. They are constantly entailing heavy losses upon the country, and in my opinion have done more to arrest the progress of healthy and profitable sheep husbandry than all other causes combined, the inevitable "worthless cur" included.

Fully imbued with these ideas your "impetuous farmer" having some land overrun by bushes, briars and broomsedge, and excited by hearing of the large profits made by some man on a small flock of sheep, without hearing anything of the expenses, determines no longer to neglect this mine of wealth by which his pockets are to be filled and his waste places to be made to blossom as the rose.

I know a man who gave his wife a tablespoonful of tartar emetic under the belief, as he said, that "if a little would do a little good, a heap would do a heap of good." Under the same belief your "impetuous farmer" buys three or four times as many sheep as he could care for properly, even if he thought any care necessary and understood how to give it; and as with him "a sheep is a sheep," by way of making the profit larger he buys such as he can get for the least money, and turns them out to clear up and enrich his land and to get fat.

Even if none of them are killed by "worthless cures" or starvation, he is surprised and disappointed in the spring to find that they are very poor, that so large a portion of what little wool they made is hanging on the bushes and briars, and what is left is so inferior that it is scarcely worth the trouble of shearing; that most of the lambs have perished from exposure and want of nourishment, and that those that have survived are not worth raising. He either sells out his flock for what he can get or leaves them to dwindle out, concluding that sheep husbandry is not only an unprofitable but a losing business, and his neighbors come to the same conclusion. Whereas, if he had been taught from the first that the conditions of success are

First—That he shall provide himself with good stock.

Second—That he shall begin with no more than he is certain that he can take good care of.

By providing plenty of good pasture in summer.

By providing plenty hay and grain in winter.

By giving them shelter and special care and attention at lambing season, and providing the ewes with succulent food that they may furnish

the lambs plenty of milk, and he had fulfilled these conditions, not only would he have realized a good profit upon his investment, but his neighbors, seeing his success, would have been induced to follow his example, not only in getting sheep but in caring for them.

I had prepared an article upon the profits of sheep husbandry for your next issue, but desiring to set myself right upon the "fathering" subject and supposing it, will, in consequence of your promise to publish part of Mr. Stabler's and Commodore Jones' essays, be crowded, I postpone it.

JAMES N. BETHUNE.

Fauquier Co., Va.

Sheep in British Agriculture.

Messrs. Editors American Farmer :

General Bethune puts it strong, but his article is in the main sound and timely. What has "made England agriculturally" is neither "sheep and turnips" as one would have it, nor the enormous use of fertilizers as another might suggest; in short it is neither one specialty nor another, but a settled compact betwixt landlord and tenant that the farm shall be maintained in the highest state of cultivation and fertility. "Never over-stock nor over-crop" was the conspicuous motto on the archway of the farm steading where I used to work, and it is a good motto anywhere. Here, in the Eastern States, we have certain specifics for the renovation of exhausted soils; in some parts of the West farmers concentrate their energies on some crop believed to have money in it, and the next year the money is somewhere else and must be followed up. In Britain it is the steady grind that brings success. Crops may fail one year, but they are only the more sedulously watched the next. Your readers may remember the case of an American farmer struck with admiration on first beholding the straight and handsome plow-furrows seen everywhere in Britain, but yet unable to see the advantage of being so nice about the rough work of the farm. A correspondent very happily reminded him that the man who turned off a straight furrow was very likely to do every other operation of the farm straight and right. British agriculturists do not attempt to farm without capital, and few of them I believe would take a farm as a gift if necessitated to work it on the meagre capital possessed by many who hold on to their farms here. The poor farmer whose communication started this discussion would be better off as foreman to some wealthy gentleman, than in struggling against fate on a worn-out arm. The British farmer expects no miraculous gains from the use of sheep. They pay their way handsomely, to be sure, in the general economy of the farm, but to "make rich land richer" they must be highly fed and pampered, and when accounts are made up there is many a heavy item to be laid against the flock. I speak from experience,—having, when a boy, worked under a first-class shepherd for several years, and I well remember that in spite of all his skill, the number of *interments* in the course of a year was very heavy.

JOHN WATSON.

Baltimore Co., Md.

Haymarket (Va.) Agricultural Club.

Messrs. Editors American Farmer :

The regular monthly meeting for September was called to order by President Brown, at "Evergreen," the residence of Col. E. Berkeley, on the 6th instant. The committee of inspection reported as follows, after viewing crops, stock and farm, and estimating the weight of cattle, which were grazing on a blue-grass pasture:

The committee notice that although the corn was planted late it promises an unusually fine crop. Whilst the committee does not agree with the mode of planting, viz: 5x3, they have to acknowledge in this instance it has proved a great success. In walking over the farm the committee admired its beautiful location, lying at the foot of the Bull Run Mountains,—the fields being covered with both blue and artificial grasses, in proof of which the cattle inspected were estimated as high as 1,600 lbs., though not ready to go to market. The committee is very much pleased with some of the young Short-horn cattle. Col. Berkeley shows commendable fondness for improved stock, and it learns with regret that his fine stock of Berkshires has been attacked with cholera. A remarkable case of a model tenant was found on the farm, who has lived here for 20 years, who has improved both land and buildings that he has had under his charge with comparatively no cost to the landlord.

No stock scales being in its immediate neighborhood, the club at a former meeting resolved that the secretary place estimates of cost before this meeting, which was done, and after mature deliberation a stock company with the controlling interest in the club was formed, and a committee appointed to purchase a scale and put the same up at a convenient place. The use of the scale will be allowed to all farmers in the neighborhood, and the club hopes to gradually draw buyers of produce and stock from abroad.

A new road law for our county was framed and adopted, and was put in operation this year, and the club requested its members to see that the contracts made were to responsible parties and according to law. Several of our members have contracted for sections and predict better roads within a short time.

The members compared thrashing notes, and the results gained by the different fertilizers were discussed. Rust and milk-weevil had injured to a great extent the majority of crops. It was thought well to send a number of samples of the most prominent fertilizers used in our midst to the State chemist for analysis, more money being spent for fertilizers on the majority of farms than for any other object.

W. L. HEUSER, *Sec'y.*

The Enterprise Club.

Messrs. Editors American Farmer :

We met on the 7th inst. at Wm. S. Bond's.

With J. T. Moore in the chair and Chas. H. Brooke temporary secretary, we proceeded to business about the usual hour.

Mr. Bond's place is farmed out on shares; his own attention being entirely taken up in his steam bone and fertilizer mill, which supplies many of our farmers with ammoniacal and phosphatic manure, at the same time draining their pockets of most of their spare cash.

The flower and vegetable gardens were showing that they were not neglected. The ice-house still contained sufficient ice to last through the hot season. The house and barn-yard are supplied with pure water from a spring a quarter of a mile off by a hydraulic ram.

The first cutting corn of the season we noticed going on here.

Although our host has a bone mill of his own, with hundreds of tons of bone-dust ready to be spread, he does not forget that land, like animate objects, require a variety of food, consequently oyster-shell lime is used liberally when needed.

The question referred to Chas. H. Brooke at our last meeting: "Do wash furrows do any good," was answered by that gentleman in a brief but effective essay in the affirmative. In discussing this subject, T. J. Lea said he thought they did more harm than good.

Arthur Stabler said unless they were well attended to they had better not be made.

R. M. Stabler said, on some fields he had found them to act admirably.

Fred. Stabler believes in wash-furrows; makes them large and wide; makes them permanent so they can be plowed over and driven over.

Asa M. Stabler has been in an undecided state of mind in regard to them until recently; is now decidedly in favor of them; thinks he saved five inches of earth this year in his cornfield by having well-constructed wash-furrows.

T. J. Lea, from committee on stock, reported that he had some April calves, Short-horns, that weighed from 350 to 400 lbs.

From 80 cents to one dollar, according to size of the fodder and distance carried, was decided to be about the right price per acre for cutting corn this year.

Sprinkling with salt and pepper was recommended for the cabbage-worm.

Questions.

How and when to spay heifers? No one could give the desired information.

Shall we sell hay at 50 cents per cwt. in Washington City or feed it? B. H. Miller said if he had not the money he would borrow rather than sell hay at so low a figure. It was unanimously resolved to be a poor policy to sell hay off the place at \$10 per ton.

What kind of cattle shall we purchase?—Mostly in favor of buying young stock that could be gotten off in June and July.

The present corn crop is considered above the average on poor land and below the average on good.

How late will it do to sow wheat? From the 20th to 25th of October; two say as late as November 1st.

Will you take stock in a telephone to Laurel or Rockville? One or two shares taken conditionally. Then adjourned. Yours, &c.,

Sandy Spring, Sept. 21st, 1878.

N. E. D.

Deer Creek Farmers' Club, Harford County, Md.

The regular monthly meeting was held 14th September, at the farm of Mr. S. Martin Bayless, near Glenville. The examining committee reported (we quote from the *Aegis*' report) that they had made a careful inspection of the farm and found everything in perfect order. Mr. Bayless' cattle looked remarkably fine, and the grass in his pasture-field was as good as any farmer could wish.

The question announced for discussion was: What variety of wheat is most profitable in this county; when is the best time and what the proper quantity to sow?

[The general opinion of the members was that the Fultz was the variety best suited to their situation. We regret being obliged to curtail the interesting report.—*Eds. A. F.*]

S. M. Bayless said he had been sowing Keyes' Prolific wheat for the last eight or nine years, and prefers it to the Fultz. The latter is hard to clean and does not turn out so well as the other. Always receives the top of the market for his wheat. Sows from the 27th of September to the middle of October. Drills in from 1½ to 1¾ bushels of seed. Sows some bone broadcast and also some with wheat, shovelling them in together.

Wm. Munnikhuyzen has tried two or three varieties and prefers the Fultz. Mr. Bayless' objection to it the steam thrasher gets over. That machine threshes it clean, leaving no white caps or pieces of heads in it. The Fultz wheat is improving. The color is better than it was a few years ago and it makes better flour. From the 15th to 25th September is a good time to sow on fallow ground. Stalk ground should be sowed as soon as corn is cut off. Would in no case sow before the 10th or 15th of September. Has tried the Clawson and Kent wheat. [The latter so called because the seed came here from Kent county, Md.] The Clawson is better this year than ever before, weighing 62 pounds to the bushel and turned out as well as the Fultz. The latter weighed 64 pounds to the bushel. The Clawson ripens rapidly; is a tall wheat and stands pretty well until ripe, when it is apt to fall. The Kent turns out like the old Red, but resembles Fultz so closely that it is difficult to distinguish them apart. It makes better flour than Fultz, but does not ripen as early or turn out as well. Has never seen a stalk of the Kent with rust on it. Drills 1½ bushels to the acre, or uses 2 bushels broadcast.

William Webster thought farmers should always try to get a variety of wheat that is well established,—one that has succeeded best in a number of years. He considered the Fultz the best because it has succeeded here for some years. A number of years ago we had the Blue Stem, then the Boughton, next the Red Mediterranean and the Clawson, and now the Fultz, which has succeeded better than any of the others. Would not drill over 1½ bushels to the acre even on thin ground, and seeds from 20th of September to 15th of October. Pre-

ferred drilling bone with wheat, and thought 300 pounds drilled equal to 500 pounds broadcast.

E. M. Allen said he had taken pains to enquire of farmers and is satisfied the Fultz is the best wheat. He sows between the 20th and 30th of September. It depends, however, on the seasons. The best crops he ever raised were sown on the 11th, 16th and 21st of October. Sows 1½ bushels of seed, but thinks 1½ enough. Last winter ought to teach farmers a lesson about raising wheat. Wheat is injured by extreme cold weather.

The season was mild and we raised large crops of straw. If we would spread straw thinly over our wheat ground in the fall, after sowing, it would protect the wheat from freezing and thawing. The effect would also be good in the spring, by keeping the ground moist and protecting the ground from the dry winds. The straw thinly scattered would not interfere with the grass seed.

R. Harris Archer had little doubt but that Fultz is the wheat. The difference in price in favor of long-berry amber over Fultz is very slight. There was a great outcry three years ago against the Fultz, but the quality is better now and the price is kept up better. Sows from 15th September to 1st October. One and a-half bushels to the acre on the 15th of September is as good as 2 bushels on the 15th of October.—Would make a difference of one peck every ten days.

Mr. Bayless remarked that no one had said anything about the depth the wheat should be drilled. Silas B. Silver replied that last year he had two drills running, one planting three inches deep and the other scarcely covering the seed, and saw no difference in the crop. Mr. Webster said he would not like to drill wheat over two inches deep. Mr. Hays had drilled wheat two years ago, and that planted deep did not do so well as that planted shallower.

Benjamin Silver said that for the present he preferred the Fultz wheat. Had been raising the Fultz and the Red for the last few years. Was afraid to sow Fultz on north-lying lands, but sowed it on south-lying lands. He preferred the Fultz to the Red, because it has stiffer straw and is not so liable to fall down. It is improving in quality, and makes better flour now than the Red wheat. The time for sowing depends on the season. In old times farmers were careful not to sow too early, say before the 20th of September, as it was certain to be taken by the fly. The fly has not been so destructive of late, but there is still a risk to be run in sowing wheat very early. He generally sows from the 23d or 25th of September to the first week in October. Has known fine crops sowed the second week in September, and last fall wheat sowed in October made good crops. Has tried 1½ to 2 bushels with drill, or broadcast 2 bushels per acre of old Red. There are more grains in a bushel of Fultz than in a bushel of Red Mediterranean, but the latter stools out more and so much need not be sowed. Approves of Mr. Moore's method of preparing the ground. Where you have no drag, it will be found advantageous to pass long-toothed harrows over the ground, to pulverize and make it thoroughly friable. Ordinary cultivators do not go in deep enough. In preparing corn ground for

wheat, first cut the stalks off and pass a harrow over to level it. Then run a double-shovel plow or drag deeply over it. Prefers to sow bone broadcast, as it is better for the grass seed. If fertilizer is drilled in would prefer some of the phosphates. Every farmer should make his own phosphates.

Mr. Thomas Lochary remarked that he agreed with the other members, except as to the quantity of seed to the acre. Likes to sow thick. You seldom see wheat too thick, but often too thin. Drills as much as 2 bushels to the acre. Commences to sow the last of September and gets it in as quickly as he can.

Upon enquiry among the farmers present the average yield of wheat this season, among the members of the club, was 26 bushels per acre. The highest yield reported was 39, and the lowest 17½.

The Poultry Yard.

Seasonable Hints.

By G. O. Brown, Montvue Poultry Yards,
Brooklandville, Md.

Feeding.

Be careful now in feeding new corn. Many cases of so-called cholera, that annually visits the poultry yards, originates from feeding *new corn* that is not thoroughly cured or dry. Fowls are fond of picking green corn from the ear; and while it is in the soft, or milky state, it is good for them. After the corn is once glazed, or commences to harden, in this semi cured condition it digests unevenly, irritating the system, resulting in a derangement of the bowels, and when used (as it often is) as an exclusive diet, soon causes disease and death. If the corn is difficult to shell from the cob, it is insufficiently dried. If necessity compels such to be fed to poultry, it should first be put in some suitable vessel and thoroughly *heated*. It will be observed, that a considerable amount of moisture will be expelled. It should then be spread out in the sun and air, and not fed until the grains become again cold. It is now the proper time to

Renovate the Houses.

and get all in readiness and condition for the comfort and thrift of your birds in the approaching fall and winter weather. A good cleaning out, removing all the nests, roosts, &c. First empty the nests' contents in the centre of the building and burn them, (that is if the floor is earth—and it should be; if not, of course the burning must be done *outside*.) After all dirt has been carefully swept out, whitewash the entire interior. You should put to each six quarts of whitewash two tablespoonfuls of *carbolic acid*. Sprinkle the floor, and all other places you do not whitewash, with water containing the acid named in same proportion as in whitewash. See that all broken windows are glazed, that all cracks or crevices that will allow a draught of air to blow in on your roosting fowls, are properly battened and stopped up. If not properly housed when the cold boisterous nights come, your birds will be almost sure to contract

Roup.

If this disease appears, you will readily discover it by the offensive odor arising from the affected bird's nostril. The ropy fowl should be removed to a place or coop by itself, as it is considered contagious if birds are allowed to drink from the same vessel. Immediately wash out the bird's mouth with soda water, or *warm* vinegar. Give two or three pills, about the size of a cherry, made of bread crumbs, moistened with lard, and well peppered with cayenne or mustard. If the head the next day is yet hot or feverish, and the odor from the nostril is yet offensive, give a teaspoonful castor oil. If this disease gets once well-developed in a bird, *unless* it is a very valuable one, the best medicine is a dose of hatchet. It is also claimed the disease is started or propagated by housing too many birds together in a small space, filthy quarters and want of sufficient ventilation. A most excellent

Deodorizer

may be secured, by getting several barrels of thoroughly pulverized road dust, which should be put away in a dry place. During the winter this can be spread daily over the droppings, and when the houses are cleaned out the road dust will be found to have acted as a deodorizer, and by once handling over with the dropping is so thoroughly assimilated with them that it makes a very nice guano, already prepared, and excellent for almost any crop, equaling in value the best of fertilizers.

OUR FRENCH LETTER.

Horses at the Exposition.

Messrs. Editors American Farmer :

The International Horse Show was a very brilliant affair; there were 1,036 entries, not including some 22 zebras, "breeding mules" and asses. The catalogue did not classify the animals following nationality, but, as a good guess, England sent 66 horses, of which 15 belonged to the Stud Company; Austria, 56; Russia, 27, of which 17 were owned by the Grand Duke Nicholas, and named after the heroes of the late war; Belgium, 80; Holland, 6; Denmark 7, and Italy 8;—total 250; the remainder were French. 36 stallions, belonging to the latter were from the national studs. The horses were divided into 37 categories, devoted to pure Arab, English and the crossings of these bloods; here figured all the celebrities of the turf, and as popular as at the moment when they entered the paddock after a victory; next followed carriage horses, then the animals for the saddle, next ponies, and the last eight classes consisted of draft animals. The latter may be said to have divided the interest with the lot of Russian horses. The Austrian exhibits were less showy, but they had solid merits united to elegance and distinction. Russia has been very successful in employing pure oriental blood for her cavalry, and also for her Orloff trotters. Indeed each country can produce parallel proofs of the value of pure Arab blood. What appeared most curious in the various races exhibited, was the preservation of the unique family type, the immutable laws seemingly of nature at work

despite differences in shape, volume and temperament, as affected by climate, food and general surroundings. A horse is said to be half-blood when it is the product of a sire of pure blood and a common mare; as the latter may have some pure blood in her veins, so will her progeny rank a sixth or an eighth higher in purity. People are very apt to consider as one and the same, the pure Arab and the pure English, and that both are identical on a race-course. They are alike in possessing an energetic head; a strong and graceful neck; grand and harmonious lines; tendons strong and dry at once, and the same carriage of the tail. But one is vivified by the Oriental sun, and the other has been artificially conserved intact by the hand of man. However, agriculturists have more to do with draft horses than racers, and here the breeder endeavors to produce a power which, by the sole weight of its own mass, can overcome the resistance of the load to be dragged. Such an animal has not been bred to gallop or to trot; his normal pace is the walk. For the latter race, the English breeder has secured the rigidity of the back and loins so essential for the transmission of movement, while he has furthermore obtained, on the whole, elegance of head and fineness of coat and mane. A bay horse by the Stud Company was a happy illustration of these excellencies. The Belgian draft horse leaves much to desire; the ears are placed too low, and being smothered in a mane and a tuft, destroy the physiognomical expression; the coat consists of less fine hair, and the mane and the tail lack suppleness. One-third of the exhibits belong to the draft race, and the specimens were as various as they were magnificent. For example, the *Boulonnais*, the type-horse of legends and chivalry; the robust Clydesdale, the descendant of the black Armoric horse; and skipping others we arrive at

The Percheron;

Beauceron would be the better name for this breed, for, although born in Perche, the colts, after a year old, are really transported to and reared in la Beauce, where the young animal finds with the farmers of the plain an abundant and fortifying regimen, splendid air and work suited to its age. Many believe that all grey or mottled grey horses of this class are Percherons; the same color was peculiar to the once famous Picardy horse. In a word, so great have been the crossings with Arab blood and other races, that the old and celebrated race of Percheron has disappeared in fusions, and only exists in history. At first the smallness of the Percheron, and its aptitude for the saddle, made it excellent for war purposes; modified by Arab crossings, it was found superior for posting, and was remarkable for a square head, a prominent eye, a barrelled body, though short at the sides, powerful haunches, jaws of steel and feet free from curbs. Are we quite right in encouraging now-a-days these titanic races, when highways are kept in repair; when railways and tram lines penetrate everywhere; when machines are models of lightness in point of draught, and when traction engines represent literally horsepower. We want less volume in this breed of horses, and more agility or quickness; an ani-

mal suited to the wants of the moment. Here is the road for selection; not that of maintaining color, as for the Percheron, or the purity of old races, which becomes a Utopia after half a century of crossings. Of the 294 prizes awarded, France received 201, England 35, Belgium 28, and Russia 3. In the case of saddle horses, France carried off all the prizes, excepting a few won by England; but in revenge, the latter and Belgium completely defeated France in draft animals.

Commercial Manures.

A less imposing proof of the progress of agriculture than machinery at the Exhibition, is the display of commercial manures, in class 51. They do not pretend to replace farm-yard manure, but to aid it—as auxiliaries. Few of the specimens shown—all contained in bottles—not only have a sterling value, but the latter is authenticated by a genuine chemical analysis. A quarter of a century ago, such a display would not have been possible; the trade in manures is now honest, thanks to science and the law. The fertilizing properties of guano, fecal matters, animal refuse, nitrates, earthy phosphates, oil-cake, and the residue from various industries, are not contested: the point is to know their values; to apply them where necessary and when; in suitable doses and at propitious seasons. There is one point in connection with these auxiliary manures rather lost sight of—their degree of pulverization. The greater the degree of fineness of a manure, the more efficacious will be its action, because the plants can more easily incorporate or absorb it. Glass, for instance, which is insoluble in water, becomes dissolved therein, when reduced to an impalpable powder. In selecting a commercial manure, give the preference to that which is in the most minute state of division, just as you would prefer for seed the soil the most friable. Hence the importance of machines which reduce mineral fertilizers to the condition of a flour. A glance at the rows of specimens is sufficient to prove that the soil of old Europe is a long way from being exhausted, as in the case of that of Sicily; or that manufacturers having swept battle-fields of their bones to convert them into grass, roots, wheat and beef, the resource is exhausted. Many become nervous at the prospect of the exhaustion of guano beds: there is no occasion for alarm: class 51 and its contents suffice to assure us, that when there will be neither guano nor bones, there will be nodules and caprolites to take their place: the earth is full of mineral phosphates that will endure as long as the world itself.

Agricultural Machinery.

I will be much mistaken if French implement makers do not largely benefit by the Exhibition, whose agricultural machinery they study with a feverish attention. The drills, ploughs and sowers, the reaping machines that deliver and bind with cord not wire, sheaves of an equal volume; the adaption of the system of the engine inside its tender; the chaff cutters and grain, &c., crushers; the root-lifting implements; the vine tillers, all that is new, ingenious, adapted for a fixed end, has been noted. A little time will show if French manufacturers can improve

upon what has been exposed, and surpass it in workmanship while not exceeding it in price.

The Hay Crop

has been plentiful this year, but leaves everything to be desired in point of quality. It has suffered from inundations and consequent sedimental deposits, and, in the making, the incessant rain has developed much rust and must. All these evils can engender serious alteration in the health of animals, resulting in colics, calcareous deposits and putrid fevers. Musty hay is eminently dangerous; its fatal properties cannot be corrected sufficiently, and the best use to make of it is for litter. The manner to utilize hay otherwise injured is to shake it well to clear of dust, water it slightly before consumption with a weak solution of salt or vinegar; mix it with fresh straw or artificial meadow hay or with pulp or cooked roots. In any case remember the more an animal's rations are varied, the more will be their nutritive value; meadow hay is superior to any single artificial forage simply because it consists of a variety of natural plants.

The Poultry.

M. Lemoine, of Crosne, near Paris, is a famous poultry breeder; twelve acres of ground are covered with yards and parks for every first-class variety of barn-door fowl, in addition to rabbits and pigeons. Each park has its peculiar breed, and a studied selection maintains while improving the purity of the race: birds of a feather do not flock together; those accustomed to a warm climate have Southern cots, but all are protected from excessive heat and excessive cold. The houses for the birds are spacious, two feet above the ground, built in cement and divided into two compartments—for roosting and laying. It is only when eggs fail to be hatched in the ordinary way, that recourse is had to the incubator to keep up the family of 13 chickens for each hen; in the case of goose eggs, a hen only covers six of these. The object of M. Lemoine is to produce eggs and breeding birds.

Paris, September 12, 1878.

F. C.

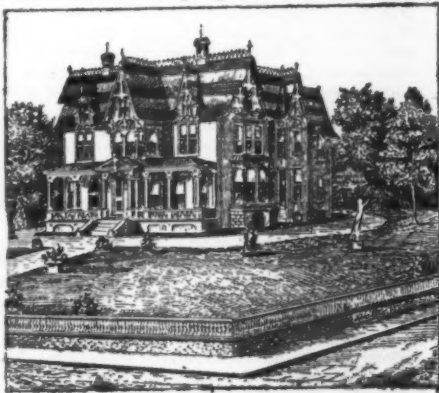
Beet and Cane Sugar.

At the last meeting of the Elmira Farmers' Club some samples of beet sugar were exhibited by Mr. James M. Hart, of Oswego. They were in small cakes, of snowy whiteness and spotless purity. They had been procured by Mr. Hart from France, where beet sugar manufacture has attained a high degree of perfection and affords profitable diversity to agriculture, besides giving remunerative employment to many persons whose field of labor is thus extended; and still farther, saving the exportation of other products in exchange for sugar, which would otherwise have to be imported from cane-producing countries. Mr. Hart is experimenting in the culture of amber cane, which with beets he believes can be made profitable in sugar production. His investigations, extending over a wide range, have led him to the belief that the entire supply for the American continent can be cheaply produced in the Northern States, thus reducing cost to the consumer and giving profitable employment to great numbers of willing hands now crowded out of their usual avocations.

Palliser's Centennial Villa.*

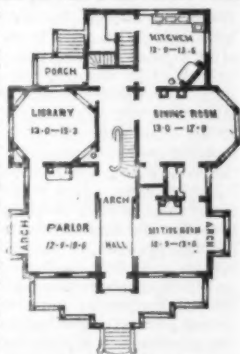
Editors American Farmer:

The cuts here given illustrate a very handsome residence in the domestic Gothic style of architecture, and well adapted to the wants of Americans and the American climate, having sharp roofs and handsome gables to readily shed the heavy rains and snows,—something very necessary, as, too often, with a flat roof, which is not fit for a climate like ours, a sudden shower after a heated term will find its way through, sadly to the detriment of interior decorations, &c. That the exterior of this design is very striking and picturesque is at once obvious after an examination of the perspective view; yet there



PERSPECTIVE VIEW.

are some whose taste has a preference for a dry-goods-box of a house in preference to an artistic rendering of the same at the same cost. But such people cannot be said to have an opinion on such matters, as their taste is at fault, and hence the reason we see so much bad architecture throughout the country.—These parties do not submit their ideas to an architect and secure his services to carry out something good, yet costing no more, and they conduct their building affairs in the most unbusinesslike and ruinous manner, which we should think would be at once apparent to the otherwise intelligent business man. What does a man know about building affairs unless he has given the matter special study? Some people will say that, for an ordinary dwelling, it is only necessary to employ a builder; but it must be remembered a builder is not an



FIRST-FLOOR PLAN.

* Full set plans sent post-paid by Messrs. Palliser, on receipt of 50 cents.

architect, and knows nothing beyond the mechanical mysteries of his trade; and all intelligent builders in these days, when any one calls on them with respect to building, will ask: Where are your plans and specifications and all the details of execution? when ignorance on such matters will at once exhibit itself; and the builder will inform him: Without these it is impossible for me to do anything; for as the compass is necessary for the mariner to guide his vessel over the deep, so the plans, specifications and details are necessary for me to properly carry out your wishes in harmony with artistic taste. All builders will not do this, as there are so many who are amateur architects, and people seem to lose sight of the fact that a poor article can always be obtained at a small price.

On the first floor are parlor, sitting-room, library, dining-room and kitchen, and all conveniences which the cut of first floor fully explains; and on the second there are five chambers, bathroom, and numerous closets, and there is also a large chamber on third floor.

PALLISER, PALLISER & Co., Architects.
Bridgeport, Conn.

Gen. Meem's Sale of Sheep.

At the time our September issue went to press we had a detailed account of this sale. We find by the reports in the local papers that it was largely attended, at least six hundred persons being on the grounds. Col. L. P. Muir, a well-known live-stock auctioneer of Kentucky, cried the sale, and Gen. Meem assured the crowd that every animal was exactly what it purported to be and that there was no side bidding. A large number of prominent agriculturists and stockmen were present from Virginia, West Virginia and Maryland.

A convenient amphitheatre of seats was arranged, shaded by arbors of evergreen boughs, and the sheep were exhibited simply in a ring, and, as sold, ticketed and led away. The Canada ewes were sold first, and followed by those from the Kentucky flocks, next those from the Cooper flock of Pennsylvania, and then the Southdown and Cotswold bucks and buck lambs.

The sales of all the ewes averaged \$18.70; the Southdown bucks brought an average of \$35.15, and the Cotswold bucks \$27.57. The ewe and buck lambs averaged \$14.88 and \$10.82 respectively. The aggregate of the day's sale of 200 sheep was \$4,159.

Gen. Meem writes us as follows concerning his sale:

"While the sale to me pecuniarily was no success, yet in other particulars it was and it has established the fact that the people of our immediate section, and also parts of your State, are ready to purchase good stock at fair prices, and all that is wanting is the opportunity. The

demand was supplied to a limited extent by my sale only, and I assure you that from inquiries made of me and from other sources I could sell twice the number of fine sheep I did on the 28th of August. I am so much encouraged that I shall have another next year, and I will endeavor to have stock of that character which will attract the attention of all lovers of fine sheep.

Blooded stock can only be scattered by public sales; and I trust that my sale is but the beginning of enterprises of a similar character in your's and my State. The necessity of their occurring is the point that should be urged by the whole agricultural class of our section, and that such solely should be made by men who will not deceive.

Herefords as Milkers.

Dr. Elzey, Professor at the Virginia Agricultural College, noting the attempt made to claim merit as milkers for the Hereford cattle, thus answers in the *Southern Planter* this rather late claim of excellence in that direction:

Mr. L. S. Hardin has collected the records of some dairy herds as to butter yields, and gives first place to the Holsteins, second to Natives, fourth to Jerseys, and last to Short-horns. We have to remark that an induction so narrow as this record of less than half-a-dozen herds, is of no value whatever. We observe that even the Herefords are put forward by some as having pretensions to shine in the dairy. Notably, Mr. Merryman, of Maryland, one of the few breeders of this cattle in this country, says that he "distinctly denies" the conclusions of our article on Herefords, and that he has as fine milkers in his herds as are to be found anywhere of any breeds, or words to that effect. If, now, any one is disposed to think, that from this fact it is to be inferred that the Herefords are cattle suited for the dairy, we ask his attention to this from Youatt: (Youatt & Martin on Cattle, page 30.) "They (the Herefords) are far worse milkers than the Devons. This is so generally acknowledged, that while there are many dairies of Devon cows in various parts of the country, (none of which, however, are very profitable to their owners,) a dairy of Herefords is rarely to be found." Now if Mr. Merryman means distinctly to deny "the conclusions of the ablest and most experienced, and most candid and unprejudiced of all writers on live stock concerning the milking qualities of the Hereford cattle, because he happens to own a few cows of this breed which are good milkers, why, then, there is an end of the value of extended experience, and isolated special cases are of more value than carefully compiled and skillfully analyzed statistics. If anybody wants to settle the comparative merits of the best milking breeds, it is not to be done by individual cases nor by emphatic assertion, nor distinct denial, but by the labor of a life-time and pains-taking methods of the scientific statistician. The common experience seems to agree in indicating some breeds as good milkers and some breeds as bad milkers, and from Youatt's day to the present, the Herefords have been set down by that experience as among the worst of all

milkers, and such breeds as the Ayrshires, the Dutch, the Short-horns as among the best, and we are fully satisfied of the general correctness of this opinion.

Is Salt Necessary for Cattle?

A reader of the *National Live Stock Journal* propounds the following to its editor, who answers as below:

"I have been feeding cattle for some years, but have often doubted the real necessity for feeding salt. The soil contains salt, and all our crops must contain a portion of salt; and I would like to know the real grounds, if there are any, for adding salt to fodder for cattle."

REPLY.—It is true that all fodder contains a small proportion of common salt, and in some cases this answers all the demands of nature—that is, upon small islands surrounded by salt water. Here the spray is carried far inland, and, of course, the vegetation has a larger proportion of salt. It is probable that on lands situated on or near the sea-coast, exposed to the action of the prevailing sea winds, cattle will not be materially benefited by salt in their food; and yet many feeders in England, in just such situations, are strong advocates of the use of salt in general feeding, and especially in fattening cattle. Salt is required in the formation of the blood and the various animal juices. It increases the appetite and promotes the power of digestion. Sheep feeders believe that it often prevents rot, scab, intestinal worms, braxy, and other diseases. Some French feeders believed that salt had an actual nutrient or fattening quality: but BOUSSINGAULT experimented to determine this, and did not confirm it. He came to the conclusion that salt added to food might produce a more rapid increase in the weight of fattening animals by giving them a greater relish for food, and thus inducing them to consume a larger quantity.

There can be no doubt that in sections of this country situated at a long distance from the sea, all animals are benefited by the use of salt. Cattle partake of it with a most decided relish in small quantities and often daily, and it is no doubt best that they should have free access to it, when they will take it by little and often, and simply satisfy their own appetite. Salt is found to have a beneficial effect upon crops on many soils, thus indirectly proving the deficiency of salt in the forage crops. We think "Doubter," who lives far inland, may well give over his skepticism, and give his animals the right to choose the amount of salt that is good for them, by giving a little daily for ten days, and then giving them free access to it.

Heaves and Hog Cholera.

The *Scientific Farmer* gives the following on these topics:

Heaves, or broken wind, is something like asthma in people. They cannot make much exertion without puffing and a dry coughing. Prevention is easier than cure; indeed, when the disease has progressed far, to cure is out of the

question. To alleviate, keep away dusty hay. Do not let the animal expand his belly with bulky food; water frequently that he may not drink too heartily. Cut hay moistened; all the food moistened and rich, rather than poor and bulky, will be found best.

Prof. Law says: "The water as the exclusive drink is often useful, and a course of carminatives (ginger, caraway cardamoms, fennel,) may be added with advantage. But nerve tonics and above all arsenic in five-grain doses daily (be careful of your doses, as excess will poison your horse,) and continue for a month or two, are especially valuable." He says further that no broken-winded horse should have food or water for from one to two hours before going to work.

Hog Cholera.—We do not propose to name any specific for this disease. Several forms of disease are often popularly classed under this name. All over the country small pigs and larger swine are carried off in great numbers, and there is uncertainty as to cause or remedy. In sucking pigs in hot weather, perhaps overheating of the sow and blood poisoning are the cause. In the West, perhaps the cause may be found in a want of mixed diet and exposure to sudden changes of weather. We should advise, when the trouble begins in the stock, to transfer them, if in a hot place, to a cool and shady one; light feeding, with not over-rich food, in the form of a thin soup, if possible. If brought on by a wrong diet it will be well, certainly safe, to change this at once. Encourage exercise.

IMPORTATION OF JERSEYS.—The steamer "Nova Scotian" landed in Baltimore on the 20th ultimo six fine heifers, consigned to Mr. Samuel M. Shoemaker. Two of them are for him, and four for Col. Chas. Studebaker, of Indiana. They were purchased by the latter gentleman and Mr. C. C. Fulton, are all under two years old, and all in calf to a celebrated bull, Hero, now the property of the Prince of Wales.

MR. GEORGE JACKSON'S IMPORTATION.—We noticed some months ago that this gentleman was about sailing for the Island of Jersey to make selections of cattle for his Beech Grove Farm, Indianapolis, Ind. He has returned home with nineteen heifers and cows and one yearling bull, the latter the first-prize bull of the Island this year. Col. Geo. E. Waring, Jr., whose advice was followed in their selection, says these animals make a remarkably good lot, and that, as he was little restricted in the matter of price, if they are not the best that could be bought it must be entirely his fault. Mr. Jackson will show these cattle at the Indiana State Fair, Sept. 30-Oct. 5, and at St. Louis, Oct. 8-12.

L. R. & M. N. SCHNEBLEY, Fairview, Washington Co., Md., have sold to Thomas J. Lea, Brighton, Md., the short-horn bull Duke of Bloomfield, 1,030, and a fine cow.

The most pressing need of the hour in live-stock matters, is that of more educated veterinary surgeons. Thousands upon thousands of dollars are annually lost by stock raisers through the lack of knowledge of the nature and proper treatment of the diseases to which farm stock are liable.

Work for the Month—October.

To the provident and reflecting farmer there is no need of admonition to have all sorts of work in a state of forwardness, in anticipation of the coming-on of the winter.

Wheat, where not seeded already, should be gotten in now as soon as may be done. By sowing in time to make considerable growth in the fall the plant becomes established, the roots penetrate firmly in the ground, and are ready to do their important work in the fall and spring; the plant has a chance to spread by tillering, and becomes invigorated to resist the attacks of the fly. But to achieve earliest sowing now practicable, the perfect preparation of the land should not be omitted,—this consideration outweighing all others in contributing to the success of the wheat crop. Where there is unavoidable delay in sowing from the necessity of better preparing the ground, a dose of some nitrogenous manure is to be recommended, as the effect of this is to give a push to the starting plant, which will enable it to make amends for the delay in sowing. An addition of Peruvian guano, fish manure, or similar ammoniacal substances to the acid phosphates, or what are sometimes called plain superphosphates, is advisable in cases where sowing is belated.

Rye should have been in the ground before this, and where seeding is not done it ought to be attended to promptly. This crop needs more attention and better care than it often gets, to make it fully as profitable as it is capable of proving.

Buckwheat should be cut before severe frosts, and when about half the seeds are ripe. Put up in moderate-sized shocks, and, to avoid waste by shattering, thresh as soon as possible after cutting. The straw makes good forage when carefully saved, and is improved and more reliable when a little salt is added to it when stacking or housing it.

Roots and Pumpkins should be stored before frost injures them. Decay results from bruising roots in digging and handling. Potatoes ought to be harvested only when the ground is dry. See an article elsewhere on the proper care to be observed with them.

Plowing, save on very light and porous soils, is to be recommended in the fall. Stiff soils become less tenacious by the freezing and thawing to which exposure in winter subjects them, and the plant-food they contain becomes better prepared for solution and absorption by future growing crops, through the mechanical and chemical agencies at work.

Lime may be applied with benefit after fall plowing. If spread on the surface it soon becomes incorporated with the soil, but it should never be plowed under.

Muck may often be dug to advantage in dry seasons, and is extremely useful in the barn-yard and stables, added to the leaves and the rough and waste substances which we have often advised to be accumulated and saved; it absorbs the urine, and of itself adds to the amount of plant-food.

Draining can be done well now, if any of your lands require it. Water furrows in grain

fields should be properly laid out and sedulously kept clear.

Manure-making.—Do not neglect, when other work will admit, to gather together the waste organic materials which abound on every farm, and add them to your compost pile. In many cases it pays to so employ a horse and cart, and the manure heap is largely increased at a moderate expenditure of time and labor.

Live Stock.—Pens for fattening hogs should be kept dry and comfortable. If possible, their feeding apartment should be separate from those in which they sleep. The latter should have their floors covered with leaves, muck, &c.; when these become saturated with excrements, have them cleaned and littered anew. Have charcoal and ashes and lime within reach of the hogs, and when first put up give a dose or two of sulphur. Soft food should be fed first, such as pumpkins, roots and soft corn, cooked when convenient. *Milch cows* should have extra messes of meal and bran as the pastures grow poor. Be sure that *young stock* begin the winter in good condition, since the old proverb is: "well summered, half wintered."

Orchard and Fruit Garden.

During this month the gathering and storing away, in some cool, airy place, of the crop of apples and pears intended for winter use and market should have careful attention; sort nicely as they are gathered from the trees, and pack in barrels, handling so as not to bruise, placing them in a shed or barn until frosty weather, when they can be removed to the cellar, or otherwise protected against frost. All limbs that have been broken down by weight of crop or carelessness in gathering, should be sawed off, and if the wounds are large, a coating of gum-shellac or grafting wax will be necessary.

In the *Peach Orchard*, the latter part of the month will be a very good time for the removal of worms or grubs from the collar of the tree. Go over a few days in advance, and with a hoe scrape away the soil from the tree, to the depth of three or four inches, leaving the part usually attacked by the borer exposed a short time; by this means, when the grub is to be removed, its exact location is easily determined by the presence of fresh litter worked out upon the outer surface of the bark; then with a sharp and tolerably strong knife the worms can be removed without cutting or mangling the bark to any extent perceptibly injurious to the tree. This work is important to the health and vigor of the trees; and the growing neglect among peach-growers in Maryland, in the last several years, upon this point, we fear will ultimately result in greater injury to their interests than is at present thought of, unless the practice is radically changed from what it now is.

Where new orchards are to be planted the present fall, inquiry among neighbors, getting the benefit of their experience with varieties, may be, in many instances, of advantage. Take no risk in purchasing the trees from unreliable parties, as there are a plenty of honorable men in the business to supply the demands.

In the *fruit garden* see that all the rank weeds that have been overlooked during the busy time are pulled up and thrown upon the com-

post heap. And where new planting of gooseberries, currants, blackberries or raspberries are to be made, put the ground in good order, using plenty of well-rotted compost. There is not such a large list of varieties to choose from in the above, and if two or three kinds of each class are planted, most likely the best of each will be included; but when we come to planting strawberries the case is somewhat different. If we are to give any credit to wide-spread representations, we have only to say in connexion with this that whether planting strawberries for market or home use, do not slight the "old strawberry"—Wilson's Albany; by so doing you will be sure to have plenty of fruit, which, if left on the plants until fully ripe, is nearly, if not altogether, equal to the best.

If the fruit-garden does not furnish a full supply of grapes for the use of the family, be sure to find a place for a few vines, as this fruit is so easily grown, and is so luscious and healthful, that no well-ordered rural household is justifiable in being without it. Plant the best, but don't omit Concord in the list.

Harvesting Potatoes.

Mr. Alexander Hyde gives, in the *Country Gentleman*, the following suggestions: In the first place, the crop should not be touched till the weather is cool and the land dry. Potatoes are better off in the ground so long as the mercury runs up to 70° or 80° during the day. They keep best in a cool and uniform temperature, and this they do not get in the cellar, if dry, before the last of September. Indeed, we often have a week or ten days in the fore part of October so warm as to damage potatoes when piled in a light and airy cellar. I have seen them stored on the barn floor or in an open shed at this time of year, the farmer waiting for a convenient season to carry them off to market. I would not pay half price for potatoes that had been thus exposed to the sun and air for a week. This tuber was made to grow in the earth and to remain covered with earth till wanted for use. By leaving the crop in the ground till the weather is cool, we avoid all danger of rot. If there is any tendency to decomposition, it is sure to be hastened by exposure to air, and by being piled in large quantities. If the rot must come, I prefer to have the decomposition take place in the field rather than in the cellar. The contamination of the air is bad enough in either place, but in the house it is intolerable. I have known many a bin of potatoes to rot from being stored too early. This involves not only a loss of the crop, but a loss of labor.

To make the harvest of this crop easy and economical, the planting should be done in drills rather than hills. Both planting and harvesting can thus be accomplished by horse power. A potato digger, rightly handled, brings up the tubers so easily and so safely that I wonder that this instrument is not in more common use. If the digging must be done by hand power, by all means use a sharp-pointed shovel, or a broad-tined fork, rather than a hoe. An Irishman seems to be a natural digger of the soil, and Patrick left to his own choice always uses a

long-handled shovel. I have often admired the skill with which he runs his sharp shovel under a hill of potatoes, and resting the handle on his knee for a fulcrum, lifts tubers and earth together, scattering the latter evenly over the ground, and adroitly collecting the former in little heaps. The soil of a potato patch that has been dug by a skillful Irishman looks as though it had been prepared for an onion bed.

I have already intimated that the digging should be done in dry weather. Muddy potatoes are a nuisance. We want the tubers to come out of the ground dry, so that they can be housed immediately. If they must be left on the field exposed to the sun all the day, in order to dry off the adhering mud, it is a damage to them. Neither must potatoes be thrown into a wagon as though they were senseless stones. The skin of a young potato is delicate and easily broken. This skin has a mission to perform. It is of a corky nature, and keeps the juices from evaporating. Farmers have pretty generally learned to handle apples carefully, but they do not so commonly understand that potatoes need careful handling. A cut or bruised potato is half spoiled, and should not be sent to market. The common practice of shoveling them with a steel scoop shovel is barbarous treatment. If they must be shoveled, use a wooden scoop. No less damaging is the practice of unloading potatoes into the cellar through a shute, on which they are thrown with a vengeance, and allowed to fall some distance into the bin. No wonder that the tubers wilt and rot after such a bruising.

The best storage for potatoes is found in pits dug in dry ground. I have never had them come out so sound and fresh in the spring as when stored in sandy or gravelly soil. The same is true of most roots, and indeed of cabbages and apples. If they must be put into the cellar, select the coolest and darkest corner, and make the bins as air-tight as possible. I called on a young farmer a few days since, and found him making a potato-bin in a light and airy part of his cellar, and the leading idea in its construction was to get a good circulation of air around his potatoes. It was built away from the cellar wall, with cracks between the side and bottom-boards—the latter raised a few inches from the cellar bottom so as to admit the air. As he was brought up in the city, and this was his first summer's experience on a farm, I excused his mistake, but could not help laughing at him good naturedly.

When potatoes are first put into the cellar, they exhale an unpleasant odor. To absorb this, and also to exclude the light and air, it is a good plan to cover them with a little dry sand; and if there is any tendency to rot, this can generally be counteracted by a sprinkling of dry air-slacked lime. Potatoes will pay this year for more careful attention than they commonly receive.

PRESERVED CORN FODDER.—A correspondent of the *Country Gentleman*, whom we recognize as Mr. Francis Morris, of Howard Co., Md., inquiring as to the quantity of fodder corn which has been raised to the acre, which in France has sometimes gone over 100 tons, says he shall have this winter one thousand head of stock to feed on fodder preserved in trenches.

Horticulture.

The Maryland Horticultural Society's Exhibition

Was held on the 17th, 18th, 19th and 20th ult., in the Armory of the 5th Regiment. The progress of this Society has been so rapid, the advances in the style and growth of the plants presented so marked, the effect and taste of the arrangement of its successive displays so striking, that we scarcely know how to chronicle its steps forward that it may not appear to those who do not see for themselves that our reports are not indiscriminate praise. Yet without risk of refutation, as we believe, we can say that the recent show was unequalled by any similar display in the character and appearance of the plants tabled, the good taste with which they were grouped together, and the beauty, as a whole, of the entire collection.

The cut flowers (except in one or two classes) and the floral ornaments and designs (if here, too, are excepted one or two instances of meretricious taste) left little to be desired.

We wish we could say as much of the fruits and vegetables. A stranger viewing the exhibits would hardly have supposed he was in the midst of a country noted for its fine products in both lines. The paucity of the display can hardly be attributed to the season alone, which has been unfavorable for all fruits; and the Society having shown by its really distinguished success in the way of plants what is attainable, it should, as it strikes us, apply itself to the enlarging of these features, which are practically of even greater importance.

The Armory in which the show was held was laid off after a happy design, giving abundant opportunity for the displaying of individual deposits, whilst making of the whole a grand and striking scene. There were few long, straight aisles, except around the sides of the hall, the formal arrangement in parallel tables having been superseded by one disposing them in the shape of concentric diamonds, the smallest and central one consisting of a group of lofty plants of marked beauty of foliage and form, from the conservatory at Patterson Park, Baltimore. The smaller tables flanking this conspicuous centre-piece were devoted to floral designs, and the cut flowers were disposed of on the straight stands stretching across the centre of the hall. Radiating from the centre aisle, and forming the sides of the several diamonds, were tables bearing the imposing collections of Messrs. Spence, Rasin, Perot, Saul, Halliday, A. Brackenridge, and further from the centre those of A. L. Black, John Feast, Captain Snow, Chas. Hamilton, E. Hoen, Wm. Fraser, superintendent Patterson Park, and others. Fruits and vegetables were arranged on tables around the sides

and ends of the hall, as were the fine collections of hardy evergreens of Messrs. W. D. Brackenridge and Cromwell & Congdon, the latter of whom also had a meritorious collection of horticultural tools, beautifully polished and tastefully arranged.

The tables at the rear end of the hall were occupied by a collection of plants from James Pentland, which were not entered for competition, and which, although forming an effective bank, giving a pleasing finish to the display, were too much crowded to show to advantage their fine size and good condition.

In the fruit department, apples and peaches hardly deserve naming, except one or two handsome seedlings of the latter, whose appearance commend them to trial; in pears, Messrs. Jno. Saul, W. D. Brackenridge, C. H. Snow, Edw. Wilkins, R. S. Emory, Jno. S. Gilman, had collections which it is no discredit to them as cultivators to say were far behind other displays heretofore made by them. Native grapes were conspicuously deficient, whilst foreign sorts of the highest quality were exhibited by Mrs. Isabella Brown, (J. McTaggart, gardener,) Wm. Fowler, of Clifton Gardens, Mrs. Charles James Baker, (D. Thurley, gardener,) and Wm. T. Walters, (Alex. Frazier, gardener,) the last-named collection being exhibited in an open rustic frame neatly decorated with vines.

In vegetables, though the prizes are liberal, there were but three exhibits,—none of conspicuous merit. C. C. Carman had a varied collection, hardly up to his usual standard; R. W. L. Rasin showed a few varieties, and S. N. Hyde some fine red Trophy tomatoes, a plate of rather poor Golden ones, a sample of his fine sugar corn and a collection of canned goods showily labeled.

In the department of ornamental designs, bouquets, &c., the offerings were unusually numerous, some of the baskets being noticeable for the exquisite taste displayed in their make-up; others being too flat, compact and formal. Funeral designs were numerous in the absence of any prizes for such constructions—though we know of nothing which more invites improvement in taste—and some were marked in the artistic feeling shown. Our limited space forbids a description of these designs in detail, but we note as attracting much attention a beautiful and graceful basket composed of fruits, flowers and vines from James Pentland; a large bas-relief of flowers representing an alabaster vase supporting a bouquet, the whole resting upon a background and encompassed by a frame of rich ivy leaves, from S. Feast & Sons; and a memorial design of John Cook, formed of a cross of ivy leaves, resting upon a pedestal covered with the same, and encircled by garlands of flowers, one of the arms of the cross bearing a white dove, with a branch in its beak. The height of this design was probably over five feet.

We have not space for a general summary of the plant exhibits, far less for a detailed account of the new, rare and curious things shown. In the list of prizes annexed, we have been at the trouble of adding the names of the plants carrying off the prizes in each class, which will be a satisfaction to persons acquainted with such things in showing the character of the display.

Scarce an inferior plant was to be seen, and all "trash" and "padding" was sedulously excluded.

Below we give the awards:

Plants in Pots.

Best collection of 12 plants in pots, \$15, John Saul, for *Dieffenbachia braziliensis*, D. Bowmanni, D. Weirii, *Spheroogyne latifolia*, *Curculigo*, *Alocasia sedenii*, A. zebrina, *Cyanophyllum magnificum*, *Croton tortilis*, C. spiralis, C. volutum, *Caladium Princess Teck*.

2d best do., \$10, R. W. L. Rasin, for *Anthurium leuconereum*, A. grande, A. magnificum, A. rubicaule, *Cyanophyllum assamicum*, C. magnificum, C. spectandrum, *Maranta princeps*, M. vanden Heckii, M. zebrina, *Raphis flabelliformis*, *Spheroogyne latifolia*.

3d best do. \$5, W. W. Spence.

Best single specimen plant, not variegated, \$5, R. W. L. Rasin, for *Padanus utilis*; 2d best do., \$2, W. W. Spence, for same plant; 3d best do., \$2, John Saul.

Best 12 distinct variegated foliage plants, \$15, W. W. Spence; 2d best do., \$10, John Saul, for *Ficus Parcelli*, *Aralia Guilfoylia*, *Maranta regalis*, *Alocasia macrorrhiza variegata*, *Pandanus javanicus*, fol. var., P. Veitchii, *Phormium Veitchii*, *Anthurium crystallinum*, *Croton majesticum*, C. pictum, *Draecena amabilis*, *Phyllanthus rosea pictum*.

3d best do., \$15, W. H. Perot, for *Ficus Parcelli*, *Aralia Guilfoylia*, *Dieffenbachia Bowmanni*, *Draecena amabilis*, *Acalypha musaica*, *Anthurium crystallinum*, *Maranta Veitchii*, M. Wagnerii, M. tubispatha, M. Massangeana, M. rosea picta.

Best single specimen variegated plant, \$5, John Saul, for *Croton Disraeli*; 2d best do., \$3, W. W. Spence; 3d best do., \$2, R. J. Halliday, for *Ananassa sativa variegata rubra*.

Best 12 varieties *Caladiums*, \$6, R. J. Halliday, for *Excellent*, Harold, *maxime Duval*, Major Benson, *picturatum*, *Raulinii*, *Isidor Leroy*, *Chantenii*, Baron de Rothschild, *Ketclerii*, Meyerbeer, *Enalichierianum*; 2d best, \$4, W. H. Perot, for Dr. Lindley, Burel, *Isidor Leroy*, Onslow, *Brogartii*, Duc de Ratibon, Lucy, Mons. Alfred Mame, Prince Albert, Edward, *Triomphe de l'Exposition*, Duc de Nassau, Baron de Rothschild; 3d best, \$2, to John Saul.

Best 12 varieties *Coleus*, \$5, R. W. L. Rasin; 2d best do., \$3, Chas. Hamilton; 3rd best do., \$2, R. M. Kemp.

Best 12 varieties Ferns, \$10, R. J. Halliday, for *Dennstaedtia davallioides* Youngii, *Nephrolepis davallioides* furcans, *Polypodium Kurrudianum*, *Pteris serrulata maxime*, *Microlepis hispidula*, *Stenochloa Meyeriana*, *Pteris argyreae*, P. gigantia, *Sitotobium cicutarium*, *Nephrodium molle corymbiferum*, *Lastrea patens*.

2d best do., \$8, W. H. Perot, for *Davallia Mooreana*, *Didymochloa trunculata*, *Gymnogramma Lauchiana*, G. Martensii, *Adiantum Farleyense*, A. concinnum latum, A. gracillimum, A. trapeziforme, A. curvatum, A. Semmannii, A. sanctae Catherineae, A. macrophyllum.

3d best do., \$5, R. W. L. Rasin, for *Adiantum cuneatum*, A. Farleyense, A. manlapforme, A. trapeziforme, A. veurvata, *Blechnum brasiliense*, *Asplenium viviparum*, A. nidus avis, *Davallia*

Mooreana, *Gymnogramma crysophylla*, G. gigantea, G. Tatarica.

Best tree fern, \$8, W. H. Perot, for *Alsophila australis*; 2d best do., \$5, W. W. Spence; 3d best do., \$3, A. Brackenridge, for *Cybotium glaucum*.

Best 12 *Lycopodiums* and *Selaginellas*, \$5, to R. J. Halliday, for S. triangularis, plumosa, cordifolia, rubricaulis, Martensii, Martensii variegata, Schottii, rubicans, lepidophylla, casia arborea; 2d best do., \$3, A. Brackenridge, for S. casia, casia arborea, Wildenovi, rubricaulis, miniata, cuspidata, densa, denticulata, stolonifera, Schottii, Martensii, var., paradoxa; 3d best do., \$2, W. W. Spence.

Best 6 *Crotons*, \$10, R. W. L. Rasin, for *Veitchii*, interruptum, cascariella, majesticum, angustifolium, Weismannii; 2d best do., \$8, John Saul, for Bismarck, Johannis, variegatum, Veitchii, pictum, Lord Cairns; 3d best do., \$5, W. W. Spence.

Best single *Croton*, \$5, R. W. L. Rasin, for pictum; 2d best do., \$3, W. W. Spence; 3d do., \$2, John Saul.

Best 6 foliage *Begonias*, \$5, W. W. Spence; 2d best do., \$3, John Saul, 3d best do., \$2, E. Hoen.

Best 6 tuberous-rooted *Begonias*, \$5, W. H. Perot, for Lothair, Topaze, Vesuvius, Kalista, Evansiana, Weltoniensis.

Best 6 *Draenas*, \$10, John Saul, for excelsa, Mooreana, Shepherdii, hybrida, terminalis stricta, magnifica; 2d best do., \$6, W. W. Spence; 3d best do., R. J. Halliday, for Baptisti, hybrida, imperialis, Youngii, amabilis, Shepherdii.

Best 6 *Palms*, \$10, W. W. Spence; 2d best do., A. Brackenridge, for *Cocos australis*, *Chamaerops tomentosa*, *Scaevola elegans*, *Dion edule*, *Arenga saccharifera*, *Phoenix sylvestris*.

Best single *Palm*, \$5, R. W. L. Rasin, for *Livistona sinensis*; 2d best \$3, John Saul; 3d best, \$2, A. Brackenridge, for *Latania borbonica*.

Best 6 *Agaves*, \$5, A. Brackenridge, for Rasinii, Millerii, antolarum, Bauchi, sisalina, Sp. from Cuba; 2d best do., \$3, R. W. L. Rasin, for Americana, A. Striata, Baucheana, rigidus, Saluriana, Lasperioides.

Best 20 succulent plants, \$6, A. Brackenridge.

Best new plant, not before exhibited, \$5, W. W. Spence, for a *Nepenthes*; 2d best do., John Saul, for *Draecena Goldeana*; 3d best do., R. J. Halliday, for *Phyllanthus rosea picta*; special commendation to A. Brackenridge for *Sansiviera angoliensis*, as an interesting botanical curiosity.

Best 12 *China Asters*, \$3, W. W. Spence; 2d best do., \$2, A. Hoen.

Best collection of hardy evergreens, \$8, W. D. Brackenridge; 2d best do., \$5, Cromwell & Congdon.

Best 6 *Orchids*, \$6, C. H. Snow; 2d best do., \$4, W. H. Perot, for *Cattleya bicolor*, *Oneidium Lanceanum*, O. divaricatum, *Phalenopsis amabilis*, *Brassavola venosa*, *Miltonia spectabilis*.

Specially recommended to public notice the very interesting well-grown collection of botanical plants from Patterson Park, Wm. Fraser, superintendent; the extensive collection of healthy, vigorous and well-grown commercially rare plants of James Pentland; the curious and rare plants exhibited by that veteran horticulturist, John Feast; the interesting decorative

plants of A. L. Black, and the handsome collections of Gustav Burger and S. Feast & Sons, the latter having furnished many plants to decorate the hall.

Amateur List.

Best 6 specimen plants, \$4, best specimen plant not variegated, \$2, best 3 Begonias, \$2, best succulent plant, \$2, 2d best fern, \$1, Mrs. Wm. B. Sands; best 3 Coleus, \$2, best 4 ferns, 2d best 3 Lycopods, \$1, Master Robt. Rasin; best 3 Caladiums, \$2, C. H. Pepar; best 3 Lycopods, \$3, Capt. C. H. Snow; 2d best 3 Begonias, \$1, and 2d best Caladiums, \$1, Master Willie Feast; best plant of Ivy, \$1, W. H. Wehrhane.

Especially commended, the beautiful collection of plants of C. H. Pepar.

Cut Flowers, Designs, &c.

Best 24 varieties Dahlias, \$3, A. Hoen; best 24 varieties Pompones Dahlias, \$3, John Saul; best collection of Roses, \$5, John Cook; 2d do., \$3, A. Brackenridge; 3d do., Cromwell & Congdon; best 24 varieties Verbenas, \$2, R. Patterson; 2d do., \$1, A. Brackenridge; best 12 varieties Perennial Phlox, \$3, best 12 varieties Annuals, \$3, 12 pots hardy herbaceous plants, \$4, John Saul; best pair hanging baskets, \$3, R. J. Halliday; best rustic stand, filled with plants, \$6, James Pentland; 2d do., \$4, R. Patterson; best table ornament of cut flowers, \$10, James Pentland; 2d do., \$6, G. Burger; best basket of cut flowers, \$5, John Saul; 2d do., \$4, A. L. Black; best Wardian case, \$6, W. H. Perot; best parlor bouquet, \$5, Miss Clara J. Hamilton; 2d do., \$4, Miss Maggie Patterson; 3d do., John Saul; best hand bouquet, \$3, John Saul; 2d do., Miss Maggie Patterson; best bride's bouquet, \$3, John Saul; 2d do., \$2, J. Pentland; 3d, \$1, Miss Maggie Patterson; best bouquet of ornamental grasses, \$3, A. Brackenridge; 2d do., \$2, John Saul.

Amateur List.

Best collection named varieties of Roses, \$3, Mrs. Wm. B. Sands; best and most artistic window-box, filled with plants, \$8, J. I. Cohen; 2d do., \$5, Miss Allison Patterson; best rustic stand, \$3, best bouquet ornamental grasses, \$2, and best basket cut flowers, \$2, Master Willie Feast; best table design, \$3, and 2d best basket cut flowers, \$1, Miss Martin; best hand bouquet, \$2, Miss Allison Patterson; best hanging basket, \$2, Master Robert Rasin; 2d do., \$1, Master Willie Feast; to Miss Juliet Montague, for stand filled with wild flowers and grasses, special prize of \$5.

Special Premiums.

1ST DAY.—Best design in cut flowers, \$25, Samuel Feast & Sons; 2d do., \$15, A. L. Black; best display of Gladioluses, \$10, S. Feast & Sons.

2D DAY.—Best display of floral work, \$30, A. L. Black; 2d do., \$20, S. Feast & Sons; best and largest display of Dahlias, \$10, A. Hoen.

3D DAY.—Best design of cut flowers, plants or fruits, or all combined, \$25, James Pentland; 2d do., \$15, A. L. Black; most artistically-arranged loose bouquet, \$5, S. Feast & Sons; best basket cut flowers, \$10, A. L. Black; 2d do., \$5, John Saul; best and largest display of cut flowers, \$5, John Saul.

CONTINUOUS DISPLAY.—Best and most attractive continuous display during the exhibition of cut flowers, designs, &c., \$25, S. Feast & Sons.

Fruits.

APPLES.—Best 12 varieties, \$6, S. N. Hyde. PEARS.—Best 20 varieties, \$10, W. D. Brackenridge; 2d do., \$6, John Saul; best collection, \$10, John Saul; 2d do., \$6, Capt. C. H. Snow; highly commended, John S. Gilman; best dish fall pears, \$3, Col. Edw. Wilkins; 2d do., \$2, John Saul; best dish winter pears, \$3, R. S. Emory; 2d do., John Saul. QUINCES.—Best peck, \$3, A. G. Mott; 2d do., \$2, A. F. Auer; special, \$2, Dr. J. Miller. NATIVE GRAPES.—Best 6 varieties, \$5, John Cook; 2d do., \$3, J. A. Hamilton. FOREIGN GRAPES.—Best 4 varieties, \$6, Mrs. Isabella Brown, (J. McTaggart, gardener); 2d do., \$3, Wm. Fowler, Clifton Gardens; special of \$3 each to Wm. T. Walters, (Alex. Frazier, gardener) and Mrs. Charles J. Baker (D. Thurley, gardener); best single bunch, \$3, Mrs. Isabella Brown; 2d do., \$2, Wm. Fowler; best dish figs, \$2, Wm. Fowler. PEACHES.—Collection of 4 sorts of R. S. Emory, single dishes of Mrs. H. Stockbridge and Geo. H. Williams, highly commended. To Col. Edw. Wilkins, for his "Riverside Seedling," the Society's Certificate of Merit.

Vegetables.

C. C. Carman, Beets, 1st, \$3; Carrots, 1st, \$3; Parsnips, 1st, \$3; Salsify, 2d, \$2; Onions, 1st, \$3; Potatoes, 1st, \$3; Lima Beans, 2d, \$2; Garden Corn, 2d, \$2; Drumhead Cabbage, 1st, \$2; Savoy, 1st, \$2; Broccoli, 1st, \$3; Tomatoes, 2d, \$2; Cantaloupes, 1st, \$3; Pumpkins, 1st, \$3; Squash, 1st, \$3; Cucumbers, 2d, \$1; collection, 1st, \$10.

R. W. L. Rasin, Beets, 2d, \$2; Carrots, 2d, \$2; Salsify, 1st, \$3; Celery, 1st, \$3; Okra, 1st, \$1; Egg Plants, 1st, \$3; Cucumbers, 1st, \$2; collection, 2d, \$8.

S. N. Hyde, Lima Beans, 1st, \$3; Garden Corn, 1st, \$3; Tomatoes, 1st, \$3; collection, 3d, \$5.

Miscellaneous.

Henry Bishop, Society's Certificate of Merit awarded for taste in construction and ornamentation of Aquariums.

Cromwell & Congdon, Certificate of Merit for handsomely-arranged display of horticultural tools.

Miss Maund, wire stand of plants, highly commended.

Wm. Fowler, blooms of Ageratums, highly commended.

John Saul and Robert J. Halliday, Certificate of Merit to each for fine display of plants.

The Annual Meeting of the Maryland Horticultural Society

Was held on the evening of September 18th, Col. Edw. Wilkins, of Kent, one of the vice-presidents, in the chair. The report of the president and treasurer were read and accepted. From these, it appeared that the financial condition of the society is good. None of the officers of the society receive any salaries or com-

missions, and its entire operations are carried on with a view to the public good, in the encouragement of the growth of fine fruits and vegetables, the introduction of new sorts, the improvement in taste in ornamental gardening, and extending the cultivation of handsome plants, the decorative uses of flowers, &c.

The election of a new board of managers being in order, a motion was made for the appointment of a nominating committee, in accordance with the custom which has hitherto prevailed, but on the suggestion of some of the members who have been in the management for several years that they ought to be now relieved and their places supplied by others, a large number of open nominations were made and a ballot had, resulting in the re-election of all the old committee, as follows: Wm. H. Perot, Henry Taylor, Wm. D. Brackenridge, James Pentland, R. W. L. Rasin, J. Mowton Saunders, August Hoen, John A. Needles, Jno. Ewd. Feast, A. L. Black, Sam'l H. Congdon, Wm. B. Sands.

The executive committee met the same evening and re-elected Wm. H. Perot, President; R. W. L. Rasin, Treasurer, and Wm. B. Sands, Corresponding and Recording Secretary.

Potomac Fruit-Growers.

SEPTEMBER MEETING.

There was a fine display of apples, pears, peaches, grapes, figs, &c. Your reporter read a paper on

The Fig.

In a climate like ours every addition to the luxury of fruits is to be studied. We cannot have many of the productions of the more southern climes, but by a little care we can have some that are seldom grown. Ripe figs, for example, are generally very acceptable, yet how few grow them; and there is no more delicious and healthy fruit.

The fig (*Ficus carica*, of Linn, belonging to the bread-fruit family) is indigenous in Asia and northern Africa.

With us it is a deciduous tree or shrub, with large deeply-lobed leaves, which are rough on the upper side and downy beneath. Its flowers are so curiously concealed that many persons think it has none, though they are numerous. They are formed within a hollow receptacle under the young bark, and appear in the axils of the leaves as small round buds.

Two crops of fruit are produced annually; and in hot climates the second crop is the principal one. They are called summer figs, and are exported.

The fig tree fruits very young, and is grown from cuttings as easily as the currant or grape.

The number of named varieties is numerous, bearing fruits that are white, black, green or yellow, and which vary in size from a hickory nut to a Bartlett pear. For our climate the medium-size fruit bearing are the most desirable.

There is an idea prevalent that in our northern climes the fig will not ripen, but will drop off prematurely. This erroneous opinion has arisen from ignorance of the culture of the tree. The

truth is that figs do as well or better in our temperate region than in hotter climates.

In a moderately fertile soil, about the only requisite to have plenty of fruit is to pinch off the terminal buds when the branches are eight or ten inches long.

In an unfavorable soil or climate the ripening of the fruit may be hastened by touching the eye of fig with a drop of sweet oil. This is the Italian method. Another method of hastening the ripening is to ring the bark just below the fruit.

By selecting suitable varieties the ripening season may be extended from the middle of July to the middle of September.

When the fig is half-grown it is in bloom, and if the hard green skin is pulled open the beautiful rose color of the interior will rival any flower of the garden.

The method of drying figs is as follows: The fruit is put into baskets, which are dipped for two minutes in strong potash lye, and then into clear water. The lye eats off the growing coating and improves the color of the fruit. The figs are then placed in bundles, and dried in the sun or by artificial heat, and when sufficiently soft to press closely they are packed in boxes.

Gen. Worthington, of Ohio, says of the fig tree: "It is quick grown, suits our climate admirably, is easily protected, is a sure bearer, and very prolific. The trees begin to bear when two years old, and when four or five they produce from the same area, with less labor, a larger and more certain crop than either potatoes or tomatoes. I like them best fresh from the tree, and often breakfast on them. The demand by the family is very great. This fall I had a cart-load of dried figs from an area of less than four square rods. The fig tree is eminently the fruit for the cottager and villager, and when its merits and adaptability to our climate become known it will be as regularly grown for family use all over the Ohio valley as either the potato or tomato."

And what is true of that State is true of the whole north.

It remains to speak of the best methods of planting and giving winter protection to the fig in cold climates.

In the spring make one or more ridges 8 feet wide and 16 inches high in the centre. Stake off along this centre distances 10 feet apart. At these stakes dig holes at right angles to the ridge 4 feet long and 10 inches wide. These holes need not be deep, but the soil in the bottoms should be pulverized.

Separating the roots into two parts, set the trees in their places, with the roots extending right and left, (in the holes,) then fill up as usual.

In the autumn, before danger from frost, prepare the trees for winter quarters, by cutting the roots growing lengthwise of the ridges with a sharp spade, not disturbing the original roots that were planted. Lay down the trees (lengthwise of the ridge,) pegging down the branches that may need to be, then cover with earth 6 or 8 inches deep.

In the spring, at the time of corn-planting, remove the earth from the trees and raise them to their positions.

Thus it will be seen that the care of the trees is not great and the whole operation is quite simple.

The unripe figs that were buried with the wood will form the first crop of the next year.

Fresh figs and cream make a dish fit "to set before"—an "American sovereign."

Washington, D. C., 1878. G. F. NEEDHAM.

Floriculture, &c., October, 1878.

By W. D. BRACKENRIDGE, Florist and Nurseryman,
Govanstown, Baltimore Co., Md.

Lawn and Pleasure Grounds.

Tulip, Hyacinth, Crocus and Snowdrop roots should now be planted out, observing to have the ground dug deep, turning in a good supply of well-rotted cow manure and sand. The bed or border should be so prepared as to prevent water lodging about the roots during the winter. The depth at which Hyacinth and Tulip roots should be planted ought to range from 2½ to 3 inches; that of Crocus and Snowdrop 2 inches.

After the first frost, cut off the tops of Dahlias about 6 inches above the ground, laying the tops prostrate over the roots, so as to protect these from frosts until they get properly ripened.

Tuberose plants that have not yet bloomed can be taken up and the roots placed in boxes of earth or in beds in the greenhouse, where they will open their flowers freely—thus prolonging the season of that most fragrant of all bulbs.

A cold frame filled with light rich earth ought now to be prepared in this plant the Maria Louisa Violet, as being one of the best varieties under cultivation. In this same frame some of the more tender kinds of Tea Roses and Carnations might be wintered.

The season for planting out Evergreen and shade trees is now at hand. Many people think that Evergreens can only be transplanted with safety in spring and early summer months; but we have found that such kinds as Norway and White Spruce, Austrian and Scotch Pine, Balsam, Fir, Hemlock, Spruce, and the major varieties of Arbor-vites, and all the Retinosporas, are beautiful, and being furnished with numerous fibrous roots can be moved with safety almost any time. The great secret in planting Evergreens is to guard against the roots getting dried before planting; to see also that they are not put deeper in the ground than they stood before being lifted; also to spread the roots well out while filling in the earth—which latter should be raised towards the stem, in order to prevent too much water settling about the roots during the winter. This earth will have to be levelled down in spring. Should the locality be open to strong winds, stakes ought to be used to support them until they get established.

The planting of shade, or, more properly, deciduous trees, should begin as soon after the first frost as possible. We do not believe in stripping the green leaves off any tree before planting, as this practice, with the almost unavoidable mutilation of some roots in lifting, causes the bark to shrivel.

In taking up trees it is important that as many of the roots as possible be preserved, and that the holes to receive them be at least one foot wider than will receive them when spread out to their full extent. More than one-half of the failures of trees to grow is caused by the roots being doubled into a hole not one-half large enough to receive them; this state of things takes place when the planting is done by contract, but just as often by ignorant servants, i. e. gardeners.

The planting of flowering shrubs, both in small and large places, has not received that attention which their merits demand. By a proper selection some kinds may be had in bloom from March to December; at this moment we have *Wigelia amabilis*, *Spiraea callosa alba*, *Lonicera Heckrothii* and *Ceanothus thyrsiflorus*, not to mention many kinds of *Altheas* now in full flower. They are easy to transplant, perfectly hardy, and do not occupy much space.

Greenhouse.

It is always better to have tender plants under cover sometime before frost sets in, than to have their tops injured by it; should the weather prove warm after they have been housed, then syringe with water overhead in the morning and admit air freely during the day. Caution ought to be taken not to overcrowd the plants at this early season, and this can be avoided by keeping out of doors in a sheltered situation a number of half-hardy things: as *Lauristinus*, *Oleanders*, *Azaleas*, *Myrtles*, &c. Even the *Camellia* will stand a few degrees of frost.

Such people as have no proper hot-house will find that *Begonias* and the most of the *Cactus* tribe will pass the winter well enough if placed in the warmest part of the greenhouse, observing not to give much water when they are in a dormant state.

Prick off into pans or single pots young plants of Chinese Primroses, Pansies, *Cinerarias*, *Calceolarias* and such other seedlings as are large enough to handle.

We advised last month that such plants of tender kinds that had been bedded out should be lifted and potted, and afterwards placed in a close frame; these towards the end of the month may be removed to the greenhouse.

Hyacinth bulbs ought to be placed now in 5-inch pots, and the pots plunged over the brim in sand or light earth, in a cool place, so that the pots may get well filled with roots before they are brought into heat. Van Thol Tulips should be treated in the same way; 3 to 5 bulbs of the latter and 1 Hyacinth is the proper number of bulbs for a 5-inch pot.

American Ivy.

(*Ampelopsis quinquefolia*.)

Prof. Van Deman thus dilates on this handsome American vine, in the *Industrialist*, a spicy little paper published at the Kansas Agricultural College:

This is the choicest of all American creepers. It clothes the majestic elms and oaks that nature has planted in our forests, climbing to their very topmost branches. The old forlorn-looking and

decaying trunks of trees whose beauty and stateliness have passed away, are most convenient supports for the slender branches of the ampelopsis. They creep along their sides and clothe these unsightly objects with glowing verdure, making them even in their dotage, it may be, more pleasing objects than when in the full vigor of their growth.

Along the by-ways, in the fence-corners and neglected spots, where there is something to which it may cling, the American ivy often makes its home; and, creeping along over the rubbish, mounts some old snag or fence-stake, and when there is no longer room to grow upward, crowns its summit and hangs in graceful sprays and festoons, waving in the air.

There is a picture of art and nature combined, which I see plainly, although it has been years since I saw the original. When I lived with my venerable and distinguished preceptor in pomology, Dr. Jno. A. Warder, of North Bend, Ohio, there was, in a pasture of his, the stone walls of an old distillery. His farm is a part of the old estate of President Harrison, and these crumbling walls a relic of the good (?) "old rye." Would to God that many more of these manufactories of liquid ruin were in the same dilapidated state. But a friendly vine of the ampelopsis had planted its roots amidst these ruins. From one main stem its branches had sought and reached the topmost stones, skirted its sides, and fitted themselves to the various broken arches and pillars, and covered withal the debris that lay upon the ground. Kind, healing nature had thrown over the sad remains of a sadder object the green mantle of charity. The picture was at once cheerful and sad,—cheerful in its beauty, sad in its recollections. Often, when passing that way on Sunday afternoons, returning from church, have I sat and rested and drank in the beauty before me. Some ignorant person at one time had thought to do a kindness by killing the Doctor's poison vine, cutting this magnificent American ivy in too close to its base. But it grew again and repaired the breach.

It is not hard to tell the difference between the true poison ivy (*Rhus radicans*) and this ampelopsis. The ampelopsis has five divisions of the leaf on one stalk, or five parts to the compound leaf, while the poison vine has but three. The leaves are different in shape, too; and the poison vine has branches projecting horizontally from the main vine, while the other has not.

For covering buildings there is no creeper in America that can equal the *Ampelopsis quinquefolia*. The great trouble with it is that it is a native in almost all parts of the country. If it was from Japan or some other distant clime, it might attain to the humble place it seeks to fill. But it grows at our feet and begs for some support,—some bare wall, some unsightly building,—that it may stretch its arms, unfold its shining garments, and fulfill its loving mission to the world's enjoyment. You who have great blank walls to your dwellings, your churches, your school-houses, go to the nearest woods this coming autumn or spring and transplant some of these vines. They are in many cases far

better than those you will get at a nursery, for there are two kinds. Although they look nearly alike, yet one has aerial roots along its whole length, and the other only holds by its tendrils, which grow only at the joints opposite the leaves. Get those that have five leaves and plenty of these little aerial roots, and you will be right.

Any who have been so fortunate as to see the Presbyterian church at Junction City, Kansas, will know what an adornment is this creeper. The stained glass windows and frescoed inner walls are but mild in their beauty when compared to the living green that decks the exterior. It has crept in at the windows, and stretched its delicate fingers along the casings and the walls. It puts to shame the pencilings of the painter's brush.

When autumn comes, these green leaves will change to purple and scarlet and crimson, in all their mingled and varied tints and shades, crowning the season in richer colors as does the sun finish his day with mellow light and glory that the noontide knows not. How suggestive the clinging tendency of the creeper, as it holds firmly to the tall and stable oak, of our dependence upon a HIGHER and STRONGER than we. May our last days be softened and brightened in their coloring, even as the ivy leaves, and fade into a future whose spring shall be eternal.

Out-Door Culture of Ferns.

Mr. Milton, a well-known writer on floricultural subjects, has the following good words for these plants:

No family of plants possesses more graceful foliage than the fern genus, and none better deserve a little extra labor bestowed upon the cultivation. Visit the shady nooks just now when our native maiden-hair (*Adiantum pedatum*) is luxuriating, and no more delicate and graceful plant can the eye behold. In localities where this fern does not grow naturally, this, as well as most of our native sorts, can be cultivated, if a suitable place and requirements be given them.

Ferns naturally luxuriate in a cool, shady and moist location, and those wishing to succeed in cultivating them should endeavor to secure just such a place where they are sure to grow best in their native woods. About many residences there are shady places where plants in general will not grow, but where ferns would succeed remarkably well. Not only would pleasure be derived from cultivating the plants, but perhaps some unsightly object would be decorated. A place shaded with trees, but not overhanging the plants too much, is to be preferred; for if too much confined they are apt to grow weakly, and do not display their full beauty as when sufficient air and light are given them. When associated with old stumps and rough stone work, ferns look very pretty if so arranged as to look natural; but when planted with too much of an artificial style, they are far from being attractive. Some species of our native ferns form very attractive objects, growing with other plants for the purpose of decorating shady

portions of the flower garden. Some of the *Aspleniums*, *Struthiopteris*, *Polystichums* and *Aspidiums* are very useful for this purpose.

The soil most suitable for the strong growing kinds is a good turfy loam and peat, mixed well together, but not chopped too fine, as their roots are generally pretty strong, and grow best in rather open soil. The smaller-growing kinds prefer a lighter soil; leaf mold and sandy loam are more adapted to their wants. When planting them, considerable judgment should be exercised so that sufficient room is afforded the larger-growing kinds to develop properly, or their beauty is not sufficiently seen. They should also be so arranged that the tall-growing kinds do not interfere with the growth of weaker-growing kinds, by being placed too near each other. The best time for transplanting ferns out of the woods is when they have started into growth in the spring, being careful to retain a quantity of soil about the roots, as then there is less danger of the rootlets being destroyed.

If considerable moisture does not exist in the place to which they are transplanted, a good thick coating of some kind of mulch should be placed on the surface of the ground, to maintain a more even temperature for the roots, and also to prevent too rapid evaporation. In the evening of hot days, a good sprinkling of water on the plants is very beneficial, greatly assisting their growth and retaining their fresh appearance. During winter, after the tops have died they are better covered with some loose hay leaves or similar material, which may prevent them from too much exposure to the changeableness of the weather.

Pampas Grass, Begonias, Smilax.

Ceres desires information as to the culture of Pampas Grass, Smilax and tuberous-rooted Begonias.

Pampas grass requires well-drained soil as the first requisite, and without this it cannot be wintered successfully. If it be left unprotected it will freeze to death, and if covered it will rot. We usually protect in this manner: On a fine dry day in November cover with a mound of dry leaves, take a large bunch of straight rye straw, tie very tight around the upper end, then spread over the leaves like a thatch. It is necessary to put a stake through the centre of the pile of the leaves to fasten the straw to.

Bend something around a few inches from the ground—raspberry canes if nothing better at hand—fasten down with little hooked pegs to keep the wind from moving it. If a small plant, a flour barrel, with one head out, set over the leaves, will probably answer.

If the Begonias are planted out, lift when in danger of frost; gradually withhold water and let them rest till toward spring. Purchase a fine, good, strong roots of Smilax that are commencing growth: those now shedding their leaves will start into growth again after a rest.

FLORA.

Maryland Granges.

BALTIMORE CO. GRANGE, No. 13, will hold its quarterly meeting at Glencoe Grange, No. 160, on Tuesday, October 15th.

SPRINGVILLE GRANGE, No. 158, Carroll co., dedicated a new grange hall on the 20th ultimo. There was a grange meeting at 9 A. M., and at 11 the Master of Ceremonies, Thos. F. Sheppard, Esq., formed a line of members and visiting patrons, which numbered about 100 persons, and marched to the new hall, which was then dedicated in due form by the State Master, Jos. T. Moore, Esq. At 2 P. M. a public meeting was held, over 600 persons being present, and addresses delivered by the W. M. of Fulton Grange, of Pennsylvania; Jas. S. Robinson, Esq., Lecturer of the Maryland State Grange, and State Master Moore.

Springville Grange is an active one, with a membership of 70, situated just on the line between Carroll and Baltimore counties, and two miles from the Pennsylvania line.

WHEATLAND GRANGE, No. 64, Baltimore co., held a public meeting, basket pic-nic and dance on Wednesday, 18th instant, near Harrisonville. A handsomely-decorated stand was erected, and during the day addresses were made by James S. Robinson, Lecturer of Maryland State Grange, and Wm. B. Sands, editor of the *American Farmer* and Secretary of Baltimore County Grange. Dancing was indulged in on a floor erected for the purpose. There was a good attendance of the friends and members of the Grange, and every one expressed themselves as well pleased with the time so agreeably spent.

ALL HALLOWS GRANGE, No. 14, Anne Arundel Co., held an agricultural show in its hall, on Saturday, September 28.

The Farmers' Pic-Nic, Fair and Meeting

Of Baltimore County Grange, No. 13, was held on the 5th ultimo in Ridgely's Woods, near Lutherville, on the Northern Central Railroad, and was in every way a substantial success. The number of persons in attendance was variously estimated at from 5,000 to 7,000,—the first figure being nearer the correct one, as we believe. A large representation of farmers and grangers from all parts of the State were present, and the best of feeling prevailed,—all seeming determined to make the occasion a holiday and gala-day.

The ceremony of the installation of the officers of the County Grange was performed at 11 o'clock, the service being conducted by Joseph T. Moore, Master of the Maryland State Grange, assisted by Gen. Hardcastle, Master of the Choptank District Grange, and Thos. F. Shepherd, Chairman of the State Executive Committee. This feature attracted a large crowd of spectators, who showed by their attention that they were pleased with the, to them, novel but appropriate and beautiful ritual.

An extensive platform had been laid, with a stand for the music at one side and another at one end for the Master's seat and the speakers of the occasion. These had been beautifully and tastefully decorated with evergreen wreathing, specimens of grains and fruits, suitable inscriptions, and large devices, composed of lovely flowers, appropriate to the day. This work was done mainly under the superintendence of Messrs. W. D. Brackenridge, James Pentland and Charles Hamilton, of Wheatland Grange, and attracted deserved praise for its design and effect. Upon the seating of the new, the retiring master, Col. B. F. Taylor, made a short address, referring in terms of congratulation to the growth the organization had made in the county since his first election to his responsible position, of pleasure in considering the work it has done, and of hopefulness for its continued harmony and effectiveness in the future. He then pressed upon the attention of all present the opportunity and the demand for a Baltimore County agricultural society, which should hold annual shows, where local interests should be considered and advanced, and pointed with pride to the thousands present as demonstrating that such an association was practicable, called for, and desirable on every account. His remarks were received with considerable applause.

After the installation, the first address of the day was delivered by J. Wilson Magruder, Lecturer of Olney Grange, Montgomery Co.,—a synopsis of which will be found elsewhere. After an adjournment for dinner, Dr. James M. Blanton delivered an able and most interesting grange speech, keeping his large auditory interested from the opening to the closing sentence. The orator covered almost every point which could be suggested, and reviewed the objections to the grange and recounted the causes which conspired to give it birth, and the way opened to it for usefulness and success. At times humorous, at others pathetic, the effort is admitted by all who heard it to have been one of the most effective and eloquent addresses ever publicly made in this State, on the aims, the principles and the capabilities of the organization of Patrons.

The addresses over, the platform was cleared and the younger folks enjoyed themselves till dark in dancing.

The show of live stock, garden and farm products, agricultural implements and machines, samples of fertilizers, &c., though only an extemporary affair, was larger than was to have been anticipated from the informal character such a display out-of-doors, with no prizes offered, and no admission fee charged, necessarily possessed; but hundreds inspected the animals and articles exhibited, and expressed their pleasure; whilst the contributors seemed equally gratified with the interest manifested by the visitors, and some, especially of the implement men, made some good strokes of business,—one informing us that he had sold four, or perhaps five, drills on the ground; another, three fans. The opportunity was evidently relished by these gentlemen of being brought into contact with a class composed almost wholly of persons concerned in agricultural affairs, and differing

therein from the crowds which attend the State shows in various quarters, which, as a rule, are made up of the citizens of the towns near which they are held, and who attend from curiosity and have little more than a passing concern in agricultural matters. The visitors from other counties of the State were numerous, and we think the attendance of farmers and farmers' families was larger on the one day than during all four days of the Pimlico show.

Below we give a list of the contributors to the show in the several departments, and regret that the space at command forbids our giving the comments on the same of the several examining committees.

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Address of Dr. Magruder.

Aside from the slighting or scornful talk of granges and grangers, with which we have here nothing to do, it behooves us to remember at all times the important distinction between the divisional assemblages designated "granges" and the Order of Patrons of Husbandry. The granges are many; the Order is one. A single grange would be of little moment acting alone; but acting in conjunction with like subdivisions of the Order set at easy intervals over the country it becomes a part of a power capable of affecting the future of this entire people; and resting as that power does upon principles of right, justice and humanity, as prescribed by social, civil and religious law, approved by the experience of generation upon generation since the beginning of present civilization, it must affect that future for good.

In all right things, and in all righteous ways, we are to help each other as brothers and sisters of a common family; we are to discourage competition, and encourage and propagate, instead the spirit of coöperation—*mutual* helpfulness.

The secrets of the Order, to some persons objectionable, differ in no way from the secrets which pertain to every family circle. Our recognition of each other by signs, grips and words is simply a means of extending the bounds of our special circle, increasing our friendships, comfort and strength. Other secrets there are none.

The *aims* of the Order are not secrets: "It is designed to bind farmers together in fraternity, and by encouraging education advance to a higher state of perfection the science of agriculture. We are to strive to add dignity to labor. We are to be honest and just in our dealings with our fellow-men, and to be quiet, peaceful citizens. We are to help the needy, raise the fallen, and aid in making the labors of this life cheerful."

In morality the Order seeks the highest possible basis; calling into question no private nor public creed of one man, nor of twenty men. It simply seeks with all earnestness and steadfastness of purpose to develop and bring into daily practice those virtues universally esteemed and pronounced expedient and necessary by all civilized communities. And it is one aim of the Order in this regard to teach that, for good or evil done, there are rewards and punishments here and now,—for the living and those yet to

live, whatever may be our pitiful, halting, almost involuntary belief for the future: that we may make this life a life of ever-present grief and pain for ourselves and others by ever doing wrong, or crown it through time with peace and happiness by ever doing right. Dealing thus mainly with the present, but at the same time in numberless ways teaching the immortality of the soul and encouraging a hope in a future of immeasurable peace and rest.

As a summary of its teachings in this respect, no better words can be found than those of Christ himself: "Thou shalt love thy neighbor as thyself." Upon *proximate* obedience to this depends all civilization. It is the groundwork of the social order everywhere; it is the groundwork of the Order of Patrons of Husbandry.

And for the proper inculcation of ever-*proximate* obedience to this, one of the primary essential steps is the frequent assembling of neighbors *under definite laws* to act for mutual benefit; this tending, without even present active desire in them, to the development of new and increasing interest in each other, to the breaking down of idle personal antagonisms, and in many ways to enlargement and multiplication of their moral and intellectual qualities, and so better fitting them for good citizenship.

They are also of first necessity in helping us to free ourselves from our shyness,—our rough speech and awkwardness,—and in helping us to cultivate that ease of manner and ready flow of sparkling talk (outward evidence of frequent association) now almost peculiar to the city-man. Not that said talk is always valuable, but that the power it affords is a most comfortable thing to have. And opportunity for the cultivation of this power, together with all other of the pleasurable things pertaining to social life, is, I say, afforded in the granges, into which—mindful of their refining power—we take our wives and daughters—when we have them—and having neither, we find our sweethearts, or can find them if we will: thus giving to our meetings a more homelike aspect, and at the same time affording our sisters a sorely-needed insight into methods of transacting business.

For notwithstanding the time devoted to matters merely social, business is also transacted. The effect of it, forcibly shown in the matter of fertilizers and machinery, may be still further shown by two bills for sundries purchased by a grange. These being merely illustrative of monthly purchases, which continue: There was one of \$61.37, which under our old system would have amounted \$83.34,—being a saving of about 33½ per cent. Another of \$117.74, which again under the old system would have been \$167.89—a saving of \$50.15; about 33½ per cent; and these savings were not owing to a general decline in prices, but to improved methods of purchasing; to be still further improved when, through concerted counsel and consequent action, and the cultivation of essential qualities of Christianity, (self-sacrifice and mutual helpfulness,) we have gained greater strength.

Through these means, too, we are to avoid following unknown and untrustworthy guides, through whom we have grown weaker and

weaker as a power, until we are scarcely known in State or national affairs except to be scoffed at as "ignorant boors" and to be used as stepping stones for the advancement of other organized interests. This, too, in defiance of the well-known fact that, except as agricultural interests prosper, there can be no permanent prosperity for State or nation; and in spite of this other fact that in time of national danger—from without or within—the final hope of safety rests in the genuine patriotism of the agricultural population.

By persisting in isolated action, neglecting the uses of association, we can only grow weaker and weaker, more and more helpless and stupid, until finally even power of speech is lost; but the world will go on in improvement without our help, using our bodies, our bone and muscle for propelling power; (it does it now;) to be no otherwise considered; to have no share in the pleasurable things growing out of its progress; none in the honors due to those who voluntarily help in that progress: (we will have deserved none!) or appreciating the uses of association we may by active mutual helpfulness and considerateness in all things take our place with the world's best and bravest, bringing to their aid a fearless, irresistible power, moving as the world moves; nay! bearing it up with us into purer and better ways, rooting up the briars and thorns of evil—evidences of sloth and ignorance—and sowing instead seeds of good—truth, justice and mercy—in time to spring up and bear us precious fruits,—blessing and to bless.

Which, then, is better? Isolation or co-operation? Which has in it the elements of lasting strength? Are we still so near akin to the beasts of the forests as not to know? We do know! In association, co-operation, in union, there is strength. Through all history, sacred and profane, the one never-to-be-forgotten, irrevocable lesson to all mankind, is this: Whatever of strength obtains in any Order or community is due to oneness of aim and concerted action; whatever of weakness to multiplicity of aims and divided action. Knowing this, then, what in the name of all things true so entirely and effectually intervenes to prevent this union of members of agricultural communities for their own and the general good? Nothing but the wholly false and absurd ideas of liberty and independence prevalent amongst them.

"Liberty!" "Independence!" Disguises merely for outrageous selfishness and unlimited egotism. Big, sounding words, used by little, creaking ignorance to cover its utter imbecility. There is no "liberty," no "independence," for either or any of us outside of the grave yonder, save for extreme self-sacrifice and entire exemption from egotism.

"What?" you inconsiderately say, "having no master, have we not liberty? May we not do what best pleases us? And with the fields yonder—our fields! wide-spread before us, on which we may raise what crops we choose, are we not independent?" Not a bit of it. Duty is our inexorable, exacting master, now and forever. Duty! "Whose voice is to the soul of man as a trumpet sounding from another world." Against

whose mandates no exception can be taken. Duty! to ourselves, to those near and dear to us, and to the community in which we live—to the mutual agreements of which—written and unwritten laws, and enforced obedience thereto—we owe whatever of pleasure, privileges, protection and peace we to-day enjoy as individuals, and for the proper preservation and improvement of these laws, that they may keep pace with the rapidly multiplying complexities of civilization, we are separately and jointly responsible. And yet by these same laws we are hedged about on every side for the *expressed purpose of subjecting* "what best pleases us" to what is best for the community at large. That is our "liberty!"

And for our "independence" growing out of possession of those "broad fields yonder!" How long would that possession be possible but for enforced obedience to those same laws? It would not be possible a single day! And we know it: With the predatory impulses of a former barbarous age still alive in us, the strong would assuredly by violence despoil the weak. Violence being restrained by these laws, *are we not, nevertheless, slowly and surely losing possession of them under the present insidious, occult and corrupt system of things?*

Is it not time then to bestir ourselves a little? To cease our inconsequential babble of "liberty," "independence!" and endeavor for things of greater moment? To set about the better education of ourselves by associated counsel? To take more thought for the *common good*, and to enter more largely and earnestly into State and National affairs? To lay aside the old and present system of separate, competitive action, and endeavor the discovery of a better one? Time to *put in practice* what has been so long taught, that we were not meant to hate and rival each other, and wage perpetual war, but to love and help each other in constant ways of peace?

And for the speedy attainment of all these desirable things the Order of Patrons of Husbandry offers opportunities through the granges afforded no otherwhere.

List of Exhibitors.

Herewith we give the names of the persons making exhibits at the Grange Pic-Nic at Lutherville

Cattle.

Col. B. F. Taylor—Jerseys—2 cows and 2 heifers; Mrs. Eudocia Stansbury—herd of Jerseys—1 bull and 5 cows; John Ridgely, of Hampton—Jerseys—5 cows; Chas. K. Harrison—3 Ayrshire calves—2 heifers, 1 bull; John Merryman—herd Herefords—1 bull, 8 cows and heifers, 2 fat steers; Chas. W. Ridgely—Ayrshire and Alderney cross-breed heifer; Thos. Pearce—1 yoke grade oxen; C. Lyon Rogers—Iolstein calf.

Sheep.

Chas. H. Harrison—3 fat wethers—Oxfordshire and native; Chas. T. Cockey—10 Shropshires.

Swine.

B. McL. Hardisty—4 Berkshires; T. T. Gorch—8 pens Berkshires; John Merryman—1 air Yorkshires.

Poultry.

G. O. Brown—White Cochins, Light Brahmas, White and Brown Leghorns, White Polands, Black (white-crested) Polands, Sultans, Black-Red Game Bantams, Pouter and Almond Tumbler pigeons, and Madagascar (lop-eared) rabbits.

Horses, Mules, &c.

Wm. T. Walters—1 Percheron stallion and team of 4 Percherons; Wm. Fell Johnson—colt Druid by Marshal Ney; Chas. K. Harrison—Percheron stallion; Thos. H. Moore—quick-draft stallion; Frank Morgan—bay stallion Hambletonian; Joshua F. Todd—stallion (Black Hawk and St. Lawrence) Harry Arlington, and colt by same; Adolphus Cook—thoroughbred colt by Dick Jackson; Edward Lynch—6 riding and driving horses and 18 Kentucky mules; Thomas Pearce—stallion Patchen, Jr., by Burlington; C. K. Harrison—team of 4 horses; John Merryman—team of 4 mules; Chas. T. Cockey—team of 4 mules; L. Mongar—Oakland Chief and two other stallions.

Farm and Garden Products.

T. B. Todd—Corn and Tomatoes; Geo. Chilcoat—Peas, Apples, Vegetables; B. F. Taylor—Pears; Uriah Cox—Potatoes; J. W. Shanklin, Jr., Bartlett Pears, Egg Plants, &c.; Geo. H. Riley—Egg Plants, Beets, &c.; Mr. Alexander—Pears; J. A. Hamilton—Grapes; Miss Ellen Talbott—Beans; W. Jeff. Shanklin—Early Rose Potatoes; Mantua Mills Grange—Wheat, Rye, Mullet, Corn, Apples, Pumpkins, Squash, &c.; Samuel Appold—Hot-house Grapes.

Agricultural Implements.

U. G. Miller & Co., Ashland, Md., exhibited a large collection of plows, the Woolsey Harrow, Davis Drag, &c.; Cromwell & Congdon—Dicky Fan, Fodder Cutters, &c.; E. Whitman—Champion Drill and Fan; Joshua Thomas—Buckeye Drill; H. P. Underhill—Bickford and Huffman Drill; F. A. King—McSherry Drill; Griffith & Turner—hand and power Fodder Cutters, Corn Shellers, Hagerstown Drill, Plow, &c.; John Morrell—Plows; Evan Davis—Buster Maryland Plows; Dorsey, Moore & Co.—Feed Cutters, Montgomery's Fan, Little Champion Fan, Studebaker Wagon and Harrows, &c.; A. G. Mott—Steam Cutters, Lawn Mowers, Pumps, Cider Press, Plows, &c.; S. H. Slifer & Co.—Corn Cutters and Shellers, Wine Press, &c.; Thomas Norris & Son—Empire Drill; Walter A. Wood—Mowers; W. W. Waller—Cow Milk-er; F. Sutton, Lancaster, Pa.—Grain Seeder and Cultivator. [Of this the committee say: "The feature of this is a novelty. It is an attachment for grain drills by which grain, having been sown wider than is now usual, can be cultivated with ease and rapidity, with the result, it is claimed, of increasing the crop not less than ten or fifteen bushels per acre."]

Dairy Products.

Butter from Mrs. Captain Stump, Mrs. Dickinson Gorsuch, Mrs. Daniel Jenifer, Mrs. Joshua Talbott, Mrs. E. Stansbury, and Mrs. Charles Haile.

Bread, Cake, Biscuit.

Mrs. D. Jenifer, Mrs. E. Law Rogers, Mrs. E. Talbott, Mrs. J. W. Shanklin, Mrs. E. Stansbury,

Miss Sophie Talbott, Miss R. H. Merryman, Miss Mary E. Talbott, Mrs. Thos. Craddock, Miss Berthie Talbott, and Mrs. W. Stevenson.

Preserves, Jellies, Pickles, &c.

Mrs. Chas. T. Cockey, Mrs. A. Chilcoat, Mrs. Laura Haile, Mrs. A. Brackenridge, Mrs. Thomas Craddock, Mrs. A. Ensor, Mrs. Robt. Piper, Mrs. C. T. Hall, Mrs. J. W. Shanklin, Mrs. Harriet Gill, Miss Clara Merryman, Mrs. D. Gorsuch, Miss Emma Stewart, Mrs. T. T. Gorsuch, Mrs. J. Talbott, Mrs. W. Stevenson, Mrs. C. Lyon Rogers, Mrs. Hy. R. Crane, Mrs. Col. Philpott, Mrs. D. Jenifer, and Mrs. E. Stansbury.

Flowers and Ornaments.

R. Vincent, Jr., Arch. Brackenridge, Mrs. Edwin Griffith, Mrs. H. N. Merryman, Mrs. Stiltz, Miss Ella Jones and Mrs. Alex. D. Brown.

Hams, Domestic Wines, &c.

Mrs. D. Jenifer, Mrs. C. Lyon Rogers, Mrs. E. Stansbury, Miss Rachel Merryman, Mrs. W. J. Shanklin, Mrs. Thos. Craddock, Mrs. Geo. Chilcoat.

Needle Work.

Mrs. Edwin Griffith, Mrs. C. Lyon Rogers, Mrs. T. T. Gorsuch, Mrs. W. Stevenson, Mrs. Philpott, and Misses Annie Cockey, Emma Girvin, Sophie Talbott, Katie Craddock, Annie Fastie, Ella Gorsuch, Rosa Fastie, Fannie Griffith, Annie Parks, Belle Brackenridge, Jennie Stewart, Susie Talbott, Laura Haile, C. Haile, and Minnie Fosti.

New York State Fair.

The report in the *Country Gentleman* of the 38th annual exhibition of this State Agricultural Society, which was held on the 10th-14th ultimo at Elmira, shows that it was decidedly one of the best of recent years. "The grounds were almost uncomfortably crowded for a portion of the time, and this was particularly the case on the afternoon when the grange wagon-loads of farm produce were exhibited; the dense throng that surrounded the track on that occasion might certainly give text for an instructive discourse on the supposed necessity of horse-racing or fire-engine contests to attract due patronage to an agricultural exhibition."

Cattle and Horses.—In these classes no better show was held under the auspices of the society. The important class of Short-horns was smaller than has often been the case, numbering only 37 head. Ayrshires made the largest class, there being 62 in the stalls; and next to these the Devons, numbering 41, Jerseys 39, and Holsteins 38, besides a few Guernseys and Brahmins, and 32 milk cows, steers and fat oxen. There were only 7 Herefords exhibited, and these were by Mr. Merryman, of Maryland, who, the *Country Gentleman* says, "has long enjoyed almost a monopoly of the breed in his State," and of whose cattle it adds: they are "not, perhaps, as large as some other Herefords we have seen, but they deservedly received every prize that the rules allow to be awarded in the absence of competition." The number of exhibitors in each of

the other classes was as follows: Ayrshires, 12; Jerseys, 13; Guernseys, 3; Holsteins, 4; Devons, 7; Short-horns, 11; Brahmins, 1.

The show in the department of horses was splendid,—the class of thoroughbreds and their crosses bringing no less than 21 superb stallions into competition. In the three-year old stallion class, the blue ribbon was awarded to the Arabian Eclipse, belonging to John J. Parker, of Pennsylvania, and got by the Jenifer Arabian, a horse well known in Maryland. In draft horses all the prizes went to Clydesdales and Percherons. The first-prize Clydesdale stallion, "King of the East," is described as a mammoth fellow, weighing something like a ton, requiring a girth of 6 feet 8 inches, and a collar of 6 feet 2 inches, and measuring almost two feet across the breast and 7 feet 6 inches around the shoulders, yet with nothing coarse about him,—he moving easily and gracefully.

The sheep filled 115 pens, and the swine 132, the latter more than the usual number, and overflowing the accommodations provided. The poultry numbered 251 coops. The machinery department was fine and full, and the horticultural and dairy exhibits both large.

Our Albany cotemporary says: Decidedly the exhibit remaining for notice was the display of wagon-loads of farm produce by three Granges of the Patrons of Husbandry, to which reference has already been made. These wagons were extensive structures, requiring four horses to draw each of them at a walk around the track, and were completely covered with specimens of all manner of rural products, these being arranged with great taste, and profusely decorated with flowers in arches and other forms, constituting a small show in themselves. The Chemung Valley Grange of Elmira sent the largest, being 30 feet long, 10 wide and 15 high; but the judges placed it second in order of merit to the Horseheads Grange, No. 105—this including, beside about the same general display as the others, not only models of a farmhouse and a barn, but also specimens of live-stock—a Holstein calf, sheep, pigs and many varieties of poultry and birds, not to mention a young fox. The most compact display, however, and perhaps the one showing the most painstaking labor, was that of the Newtown Grange of Breeseport, which was 22 by 11 by 16, and must have been carefully and thoroughly constructed, as it was driven twelve miles without injury.

Sale of Herd Register Jerseys.

The Jersey cattle of the late Col. Ramsay McHenry, of Harford, were sold on the 12th ultimo. A. R. Magraw, of Cecil, bought the following at the prices given: Acca, \$171; Elgitha, \$160; Ella, \$135; Faustina, \$100; Elsie Bell, \$75; Ethelina, \$56; Bona, \$57. H. M. Fulford bought Gilsie, \$150; Stevenson Archer, Adelaia, \$150; W. H. West, Agnes Sorell, \$130; Frank Hopper, Entaille, \$52; Theodore Clayton, Elgiva, \$78. Two bulls, Edwin and Aelfric, were purchased by D. E. Thomas and T. R. Moore at \$60 and \$26 respectively. Some Ayrshire and Jersey cross-breeds cows sold from \$56 to \$105 each.

The American Farmer.

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SAML. SANDS, {
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BALTIMORE, OCTOBER 1, 1878.

The American Farmer for 1879.

We ask our friends and present subscribers to begin in good season to present to their neighbors the claims of the *Farmer* for the ensuing year, and to urge the formation of clubs, whereby the subscription is reduced to the nominal price of \$1—a sum which we can confidently assert will be more than returned in full each month in the useful information every number offers to the intelligent and careful reader.

To all new subscribers for '79 whose names are received this month, we will send the October, November and December numbers free—whether their names come singly or in clubs.

Edward Stabler's Essay.

Upon consideration we thought it best to present this paper entire in this issue, where it will be read, we think, with interest and profit. Mr. Stabler calls our attention to the fact that at the time of its first appearance several editions, each of 10,000 copies, were printed by Washington publishers and distributed all over the country by members of congress, and that it was otherwise widely circulated.

In our November issue several valuable papers crowded out of this will appear, and in that for December, we will give entire Commodore Jones' prize essay.

The Old Maryland Agricultural Society.

There has been and is still much "history" written where only that which is of little consequence is recorded, whilst what is material is omitted. Of this sort are the chronicles of this association—or at least so much of them as was referred to in our August No.—the paternity of which is now avowed by an old friend whom only the force of circumstances must have impelled to color them as he has, and to emulate, as a historian, the player who proposed to give the tragedy of Hamlet with the character of Hamlet left out.

Except that our cotemporary was entirely wrong as to the inception of the old society, the agencies at work, the methods by which they worked and the motives actuating them, and that he withheld the credit due to the real founders and promoters of the enterprise, his narration of the outline facts, patent to all, is accurate enough.

So, whilst he says "to eulogize the living would look like time-serving," that "E. Whitman was the only agricultural implement manufacturer present" at an early meeting of the Farmers' Club—who (we mean no offence to Mr. E.) with his known energy in pushing business, was, perhaps, more likely than any other member of that trade to be present where farmers met together—and that the same person received one of the largest prizes at the first show of the society, he may deem the points most deserving emphasis in his narrative, though others may see little connection between them, and the origin and progress of what was an influential and useful agricultural institution of our State.

We had written some additional facts connected with the early history of the old society, but considering that few persons now are interested in what took place so long ago, and that the space may be occupied to more present advantage, we have laid it aside, at least for the present.

In our *true* history it was left in doubt whether there was any previous consultation upon the subject of establishing a State society, or whether it was the happy thought of Judge Dobbin, who saw from the character of the men composing the convention that they and the times were ripe for such an organization. We therefore applied to our old friend, whose life may, we hope, be long spared to honor the position he fills with dignity and uprightness, for any further light he could throw upon the subject. His reply we annex:

My dear Mr. Sands:

My absence from home for a few days has prevented an earlier reply to your note of 11th inst.

I have read the account in the August number of the *Farmer*, but it does not recall more than a general recollection of the facts which seem to be there truly stated.

I think it more than probable that before moving the organization of a State society, I ascertained, by consultation with others, that such a measure would be acceptable. Who those others were, or might have been, I cannot now recall; but in looking over the list of names of those most prominent in the meeting, I recognize none with whom I was more likely to have consulted than yourself. I say this because with most of the gentlemen then present I had but a slight acquaintance, (though that afterwards ripened into great cordiality,) whilst with you I had an acquaintance from childhood, and had learned to value and esteem you for the integrity and zeal you infused into all your pursuits. These qualities you carried into the service of our then enterprise, and to no one, more than to you, did the society owe its success. I am, very truly, your friend,

GEORGE W. DOBBIN.

September 16, 1878.

The Show at Pimlico.

The State Fair, so-called, was somewhat better than we expected to see. Not that it was anything like what a real State show should be, and could be made by a business-like, comprehensive and liberal system of management, but that it was equal, and perhaps superior, to those lately held. It is true, competition in most departments was not keen; but among the horses, cattle, sheep, swine, &c., there were fine representatives of the several types. There were two exhibitors of Short-horn cattle, two of Ayrshires, one of Devons, one of Holsteins, one of Herefords and ten or twelve of Jerseys and Alderneys. Some of the horses were good, but the display as an entirety was hardly up to the average. Swine were good, especially the Berkshires of Mr. Fulford and the Yorkshires of Mr. Lynch. A few good sheep were shown, and the poultry was very fair.

The Jerseys, as is usual near Baltimore, formed the predominating feature in the live-stock department, and were as a rule handsome specimens of their race. Some of the finest herds generally on exhibition were missing.

The implement trade turned out strong and made a handsome show, which is, perhaps, surprising, from the experience of the past of trouble, expense and difficulties encountered, with small returns in the way of attention secured and honors achieved.

The exhibition hall was poorly filled, though the ladies had some beautiful articles of needle-

work and an attractive display of jellies, &c. Mr. W. D. Brackenridge's specimens of the rarer evergreens helped to cover the benches, and Mr. A. Brackenridge deposited some fine plants. The vegetables were about as poor as at the Horticultural, and the fruits even more scanty. Farm products were deficient, and the light wagon, carriage and harness department was almost entirely wanting. The appearance of the building—though Mr. Brackenridge had exerted his known skill to make the most of the material at command—was one of barrenness.

The trots and races did not appear to arouse much enthusiasm, though they are usually relied upon to draw visitors. The advertisements in the papers made them the main attraction, and perhaps this fact, in connection with the proposal of the society to sell pool privileges, was one cause to keep away the farming class.

As compared with the last show at Pimlico, and that of '77 at Westminster, in deference, perhaps, to public sentiment, the gamblers were less numerous and less vociferous than during those events, although they occupied a conspicuous place on the fair ground.

The show had no claims to be a State fair. One of the herds of Short-horns were from Kentucky, the other from Virginia. A few Berkshires were from each of those States. We have noticed the other swine from Carroll and Harford. Except Mr. Brown's herd of symmetrical (Patterson) Devons, and a few other cattle, the remaining exhibits were from Baltimore county, mostly from the territory contiguous to Pimlico, and including the Jersey herds of amateur farmers, gentlemen of wealth, who take a just pride in their fine cattle of this breed.

The attendance was small. The want of attractions and the difficulty and expense of getting to Pimlico keep city people away, whilst the farmers of the State as a class have never taken much interest in shows held there, or accustomed themselves to consider them as in anywise any concern of theirs. The present show was no exception, and such visitors were comparatively few. Pimlico and the "State Fair" score another failure, and one as pointed as any they have hitherto encountered.

Agricultural Fairs.

We are indebted to their officers for complimentary tickets to a number of shows, including those of New England, Virginia, South Carolina, Delaware, Piedmont Virginia, N. Y. Horticultural, and others, for all of which, we acknowledge our thanks.

Election of Professor of Agriculture in the Maryland Agricultural College.

The city papers of the 20th ult. announce that at a meeting held the day previous the trustees of the agricultural college elected to its chair of agriculture Dr. Geo. W. Briggs, of Nansemond Co., Virginia. Dr. B. will be recognized by the readers of the *American Farmer* as for a number of years a contributor to its pages. He is a gentleman of character and education; an extensive farmer, fruit-grower and "trucker," practically conversant with all the operations of the farm, the garden and orchard, and one of the most enthusiastic agriculturists we know.

His election to this important chair indicates, we trust, a determination on the part of its managers to make this institution one agricultural in fact, and from what we know of the new selection we believe he will aid them in this work with energy, ability and zeal.

With the first of the present month our friend and occasional correspondent, Wm. F. Massey, bids adieu to vexations of commercial floriculture to assume the charge of the splendid gardens and glass ranges at "Hampton," the seat of Mrs. Chas. Ridgely, near Towson town. The trade loses an active and energetic member, and Mrs. Ridgely is fortunate in securing, as the head of her establishment, one by birth and education a gentleman, and at the same time a thoroughly practical and energetic horticulturist. Under the management of Mr. M., Hampton will, we trust, develop new beauties, as becomes the noblest country-seat of Maryland, and reflect credit upon his skill and taste.

Meehan's Native Flowers and Ferns of the United States.

We have received from the publishers, Messrs. L. Prang & Co., parts 9, 10, 11 and 12, which complete the first volume of this work. The plates, four of which, with sixteen pages of letter-press, are given in each part, improve as the series progresses, whilst the text leaves nothing to be desired. A preface and table of contents accompany these numbers. Mr. A. De-Katow, No. 284 South St., is the agent for Maryland of this useful and handsome work.

☞ Circumstances will probably require us to issue our November number a few days in advance of the usual date, the first of the month, and we shall be glad to have our correspondents and advertisers bear it in mind in forwarding their favors.

The State Agricultural Society.

This association held a meeting on the evening of the 26th ultimo, with a considerable attendance, it being understood there was to be a contest in the selection of its future managers. Mr. Washington Booth, Vice-President of the Maryland Jockey Club, moved the election of officers be held. Mr. Jos. H. Rieman, ex-president of the society, long one of its executive committee, and the chairman this year of its committees of general arrangement and reception, objected, raising the point that the election at this time was not constitutional, it being required to be held on another date.

The meeting, by a decided vote, determined upon holding the election, when Mr. Rieman and others entered a protest.

The old officers were mainly re-elected, but in the executive committee, Jos. H. Rieman, Jesse Slingluff, R. Harris Archer, W. S. G. Baker, and E. L. F. Hardcastle, were replaced by Oden Bowie, Robt. Moore, David L. Bartlett, Wm. R. Devries and Frank Brown.

Governor Bowie is the President of the Jockey Club, and it is understood the committee is reconstructed in the interest of that body, whose lease on the Pimlico grounds will soon expire. It is probable the legality of the proceedings will be contested in the courts.

The Baltimore County Papers on the "State Show."

The *Journal* says: "It certainly must be apparent, by this time, that Pimlico is not the place for the exhibitions. . . . Agricultural fairs are not a success unless the great multitude of the people have ample and cheap access to them, in which case they never fail to produce the highest results, financially and otherwise. . . . There never was a finer opportunity for an agricultural society for Baltimore county, located at some entirely accessible point."

The *Union* says: "A good many people who attended the State fair at Pimlico this week complain of the charges for admission, &c. The entrance fee at the gate was 50 cents and 25 cents for a one-horse vehicle, while an additional \$2 was charged for admission to the quarter stretch. This might do for a race meeting, but for an agricultural fair it looks a little steep, and it will not take the people long to decide that it is an imposition, pure and simple." And its regular Baltimore correspondent adds, "the attendance and general interest in it is only moderate. Baltimore county did her full share in giving it encouragement, but not half so much and so heartily as she would have done towards an independent show of her own."

Virginia Fairs.

The following take place this month the date named: Abington Fair, September 26th; Alexandria Fair, 1st, 2d and 3d; Wytheville, 2d, 3d and 4th; Tazewell Fair, 8th, 9th and 10th; Staunton Fair, 8th, 9th and 10th; Piedmont (Culpeper) and Winchester, 15th, 16th, 17th and 18th; Lynchburg, October 22d, 23d, 24th and 25th; Rockbridge County, 23d, 24th and 25th; State Fair, Richmond, Va., October 29th, 30th, 31st and November 1st.

Our Advertisers.

Messrs. Dorsey, Moore & Co., though comparatively new-comers into the agricultural implement trade, are winning laurels in their first season's exhibits at the fairs, and they are energetically and with good effect giving the public the opportunity of knowing what they are doing and the points at which specialties may be examined later.

Montgomery's fan, of which they are the only manufacturers, maintains its old-time reputation, and their Big Giant corn and cob mill and Daniel's fodder and straw cutter come off equally well.

We call attention to the advertisement of the Parsons nurseries, which are offering the Japanese persimmon and a large assortment of ornamental trees, plants, &c.

Mr. L. Weinberger's advertisement is so well displayed it scarcely needs notice from us. He has a large stock, and the prices he quotes are very low.

The cement advertised by Mr. W. W. Clark is the celebrated Round Top, which is highly recommended both for open-air work and use under water.

Vegetable Garden for October.

Fork-up Asparagus beds lightly and give a good dressing of rich manure. Dig beets and carrots before frost hurts them, and bury in pits or store in cellars. More convenient than either, sometimes, are trenches, say two feet wide and one and a half deep, in which place the roots, covering lightly with earth, and adding more as the weather grows colder. Locate the trenches where water will not drain into them.

Cauliflowers not headed out may be put into frames or planted out in a cellar, when they will head out. Lettuce may be set in frames. As much salsify and parsnips as may be required for winter use may be dug; those not needed till spring is rather improved by leaving in the ground. Keep sprouts and spinach clean. Take up turnips and rutabagas before hard frosts. Rhubarb beds may be made.

Management of Orchards.

E. W. Sylvester, in a report to the Western New York Horticultural Society, on the management of orchards in Wayne county, thus describes the systems practiced there:

There are four systems of treatment in our county which have distinct types, but sometimes there is a mixture which does not strictly belong to either system.

FIRST. Orchards which are cultivated and the ground cropped annually.

SECOND. Orchards used as pasture for sheep and hogs.

THIRD. Orchards in which are grown crops for a year or two and then in grass a year or two, alternating in this manner.

FOURTH. Orchards kept in grass from year to year, with annual supplies of mulch, muck or fertilizers, and only plowed at remote periods of time, if at all.

We will briefly state some of the advantages claimed by the advocates of each system, for it is difficult to decide which system predominates in the county.

First. Orchards which are cultivated and the ground cropped annually.

Those who pursue this course usually have fair yields of fruit if sufficient fertilizing material is applied to the land to mature two crops. When the land is very rich and the trees of young bearing size, this constant cultivation causes too rapid growth of wood and consequent unfruitfulness.

Second. Orchards used as pastures for hogs and sheep.

This system seems to work well. The animals fertilize the ground with their excrements, eat the fallen apples, worms and all, and are true generals in the Codling Moth war. In addition to this, the constant rooting of the hogs keeps the ground partially cultivated, and if they do not cultivate sufficiently, a handful of corn planted here and there will set the animal plowshare in motion, and cultivation ensues. The orchards which are properly cared for in this manner are almost universally known as very productive, usually annual bearers. And in the war which seems to wax warm between the advocates of clean culture and grass in orchards, may not this be a kind of neutral ground where the white flag of truce may be unfurled and good crops of fruit grown; for in this system we have some grass, some culture and good sound apples or pears.

Third. Orchards in which are grown crops for a year or two and then in grass a year or two, alternating in this manner.

Many orchards are cared for in this way, and if good sound judgment is exercised in deciding when to plow and when not to plow, fair crops are realized.

Fourth. Orchards kept in grass from year to year with annual supplies of mulch, muck or fertilizers and only plowed at remote periods of time, if at all.

This is the system which has raised the most opposition among fruit-growers, and its advocates have been unsparingly denounced. It was the plain matter-of-fact statement of this mode of culture by a member which raised such a commotion in this society two or three years ago, that he was not able to make a fair exhibit of his course of non-culture.

Orchards in Wayne Co. which have been cared for by this system are fully as productive, if not more so than by any other, if we except, perhaps, No. 2. The land is seeded to grass, timothy, red top or orchard grass, (not clover, the roots are too long,) and then an annual mulch is applied, or manure, or manure and muck, muck alone, or composted with lime or with gas lime. The length of the new growth of the branches of the trees is the tongue, which the tree doctor examines, and applies the remedies at the right time, of the proper material and in proper quantities. I am fully aware that it is a dangerous fact to publish that an orchard can be kept in grass for a long series of years and yet be profitably productive. But it is nevertheless true. The writer of this plowed an apple orchard

four years since which had been in grass eighteen years, and fairly productive. In the autumn of 1877 he gathered twenty bushels of Duchess pears from two rows of dwarf trees, fifty in each row, which were set in the autumn of 1870, and the ground had not been plowed since they were set. Now these are dangerous statements taken by themselves—but this further fact must go with it. The trees had all been annually fertilized, and the dwarf pear trees had been dug around annually, at an expense of one cent and a quarter for each tree. The old apple orchard had been dragged every spring and sometimes in the autumn. The orchards of Messrs. T. G. Yeomans & Sons have been productive under the system of mulching and sometimes astonishing crops produced.

But the non-thinking orchardist, the stingy orchardist, will gladly embrace the grass plan, but he will be sure to forget the mulch, the manure, the lime, the muck, and when he has no apples he will curse the grass.

Useful Hints.

Messrs. Editors American Farmer:

Since your last issue it has been busy times with the farmers; the wheat crop has been secured and much of it threshed; the corn likewise laid by, and will soon be ready for cutting and shocking. The good prices expected in the spring and early summer have not been realized. The crops as far as ascertained were bountiful in the main. Much has been thrown on the markets, and consequently we hope monetary matters are improving. The rumors of failures in banks, manufactures and many branches of business have cast a gloom over the land. We hope a better state of things is in a not very distant future. Every business man and patriot would gladly hail the event of better times—enough money and prosperous farming seasons. It is well known that agriculture gives a spur to business. What would we desire more than health, peace, and the smiles of Providence? There is nothing gained in the world without labor and intelligent management. We may rest, but we cannot afford to be idle. The seasons succeed each other, and every one demands its peculiar labors. The old saying, "when we are not fishing we can be mending our nets," so when we are not reaping we may be plowing and preparing for another crop; we can be hauling and spreading manure, harrowing and leveling the ground. Soon the corn will be fit to handle and make way for seedling, and hence the preparation for the next crop. To insure a good one we must do our whole duty. We cannot expect a heavy yield without ample food for the cereal. Nature often affords good seasons and sufficiency of rainfalls: then we are apt to have abundant crops. It is certain we do not always have propitious seasons; hence failures. Commercial fertilizers have fallen in prices. I remember some years since they ranged from sixty to even seventy dollars per ton. Now, fair fertilizers can be had for less than half those amounts by selecting the materials and manufacturing them at home. I know some farmers that buy bones ground and dissolved, potash or

kainit, salt and plaster, prepare and mix them to suit the exigencies of the soil. I have mentioned the above, but there are other materials that can be had from the vendors that would make good articles.

Any one desiring to make good crops must lay himself out for it. No one in any vocation can attain success with half-way means—everything should be prime. The youth was instructed by his governor "to aim high—shoot at the moon if he only hit the house-top." So, my fellow-farmers, I hope I have said enough to encourage you to go ahead. I wish you all success—not only to make good crops, but to take care of them; to get good prices, pay debts and keep square with the world. It is well to have a pile to go to in time of need. Good pastures, good corn-cribs and well-filled granaries are good banks to draw on. The man with ample means can put them where he can do the most good for himself and his neighbors. Don't forget punctuality: the punctual man holds other men's purse-strings. The are two opposites—misers and spendthrifts; the one will not tender benefits—the other is not able. Fellow-farmers, keep up the dignity of our calling. Let all make a long pull and a strong pull, and a pull altogether, and good times will come again. PHILO.

Comments on Articles in September American Farmer.

IMPROVING POOR LAND.—The leading article in the September No. of the *Farmer*, by Gen. Bethune, is worthy of much thought. That we have an immense quantity of poor and run-down land in all the older-settled States is an admitted fact; and that much the larger portion has been thus exhausted by injudicious management is equally true.

In his article General Bethune takes exception to the common theory that sheep husbandry is the great panacea for improving poor and run-down land and farms. Well, so far as rapid improvement in fertility is concerned, I shall not take issue with his position. But I think that he has omitted an important point among the "axioms" of culture; he gives us the first and second, which are certainly true as far as they go, for all mineral elements supplied to plants must be supplied from the soil. As I understand it the mineral elements of plants are what constitute the ash when the plant is burned; now what proportion of the whole plant does this ash consist of? But a very small one. Where do the other portions come from? what proportion comes from the air, rains, etc.? and is there no account to be made of these in the transformations which they necessarily undergo by cropping, digesting, etc., by the animal? If I understand chemistry and natural causes and effects, vegetation allowed to fall where it grows, in time enriches or helps makes soil, provided the elements, air, water and heat, are factors in the process. A question here arises: Is the value of this herbage deteriorated by being eaten and digested by sheep, after having been added to as well as subtracted from?

I have never in my observation and experience seen old fields, exhausted sandy lands, brought to a high state of fertility by the mere pasturing of sheep on them; and I have seen some such fields so treated; neither have I seen them very permanently enriched by ordinary culture, although I have known some such fields and soils so cultivated as to give very profitable returns; but all such improvements lasted scarcely beyond the season of culture. Sandy soils are, in this respect, very unlike loam or clayey ones, for these latter hold fertilizing matter with greater tenacity when once added. Sand eats, or in some other way rapidly consumes organic matter,—thus defeating, measurably, improvement in permanent fertility.

INCREASING FERTILITY.—In distinction from the foregoing is the article copied from the *Prairie Farmer* showing the "key-note" of successful culture on any and all soils. Improved methods of culture, rotation, diversified crops and husbandry, the raising and feeding of stock, with the application of manure, must ever be our main dependence for increasing the fertility of our soils.

There is a remarkable similarity between the soils of the earth and the animal which derives its support therefrom; if either are poor or low in flesh they must be judiciously fed and treated.

SALTING STOCK.—When will the general farmer learn the importance of keeping—and keep—a supply where stock may at any time have access to it? There is scarcely one other thing of paramount importance to thrift, health, etc., of our farm stock, to salt at all times and in all general circumstances; there are so many ways and circumstances in which it is beneficial that no ordinary newspaper article could more than barely touch on a small portion of them, and I shall certainly not make the attempt to touch any of them here. W. H. WHITE.

CROPS IN ENGLAND.—The *Mark Lane Express* of October 1 says the bulk of the cereal crop has been satisfactorily secured. Pastures and roots still promise well. Potatoes are less diseased than at one time reported. The provincial markets have been liberally supplied with new wheat, but all the samples are in bad condition. Foreign wheat is also arriving freely. Weakness has been manifest in all branches of trade, and prices have been in buyers' favor. Millers have taken little or no advantage of the low rates ruling, although it was evident in some instances that they abstained with reluctance in the hope of a still greater decline, which does not appear unlikely now that the supply has so far outstripped the demand, and America continues to ship enormously.

New Advertisements.

Ernest Hoen.—Florida Establishment for Sale.
W. H. Ford.—Jerseys for Sale.
Jas. P. Machon.—Holstein Cattle.
Elhwanger & Barry.—New Grapes.
Elhwanger & Barry.—New Peaches.
Clark & Jones.—Jersey Cattle.
G. J. Brown.—Jersey Bull Calf.
Geo. Morrison.—Berkshires.
Olson & Bennett.—Strawberry Plants, &c.
Farsons & Sons Co.—Japanese Parasitica Trees, &c.
G. O. Steep.—Sashes, Blinds, Doors, &c.
Dorsey, Moore & Co.—Montgomery Fans, &c.
W. & H. Spicker.—Pratt's Astral Oil.

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CHEMICAL MANURES.

Agricultural Lectures

DELIVERED AT

THE EXPERIMENTAL FARM

AT

VINCENNES, in 1867,

BY GEORGE VILLE.

Translated by Miss E. L. HOWARD, of Georgia.

Copies of this valuable work may be had at the Office of the *American Farmer*, or will be sent by mail on receipt of the price—50 cents.

Baltimore Markets—October 1.

Breadstuffs.—Flour—Steady and firm. We quote: Howard Street Super \$2.75@3.50; do. do. Extra \$3.75@4.50; do. do. Family \$4.75@5.25; do. do. trade brands \$5.50@5.75; Western Super \$2.75@3.50; do. Extra \$3.75@4.50; do. Family \$4.75@5.25; do. do. trade brands \$5.50@5.75; City Mills Super \$2.50@3.50; do. do. Extra \$4.25@4.50; do. do. Rio brands Extra \$5.25@5.50; Spring Wheat Flour \$5.50; Minnesota Patent \$7.50@8.00; Fancy brands \$8.25; Fine \$8.50; Rye Flour \$2.50@3.50; Corn Meal, City Mills \$1.50; do. do. City Mills \$1.00; do. do. Western \$1.00; do. do. \$1.00@1.10.

Wheat.—Southern active and firm. Western steady. We quote: Southern red common 80¢@87 cents; do. do. fair 81¢@86; do. do. Fultz 81¢@87; do. long-berry 81¢@87; Western No. 2 red spot 81¢@85; do. do. October deliveries 81¢@85; do. do. Nov. deliveries 81¢@85.

Corn.—Southern steady and quiet; Western dull. We quote: Southern white 37 cents; do. yellow 55 cents; Western steamer spot 48 cents; do. mixed spot 48 cents; do. do. Oct. deliveries 48¢@48½ cents; do. do. Nov. deliveries 48¢@49 cents.

Oats.—Quiet. We quote Western mixed 27¢@28 cents; do. bright 29¢@30 cents; Southern, fair to good 29¢@27 cents; do. prime 29¢@29½ cents; Pennsylvania 29 cents.

Hay.—Quiet under very light receipts, with sales of prime Southern at 53¢@54 cents. \$ bus.

Cotton.—Steady, with quotations as follows: Middling 19½ cents; Low Middling 19½ cents; Strict Good Ordinary 19½ cents; Good Ordinary 19½ cents.

Hay and Straw.—Dull and heavy, with prices quoted as follows: Choice Cecil County Timothy, new, \$14.00; fair to prime Md. and Pa. Timothy do. \$17.00@12.00; mixed Hay do. \$9.00@11.00; Clover do. \$7.00@8.00; Wheat Straw \$6.00@7.00; Oat do. \$5.00@6.00; Rye do. \$10.00.

Live Stock.—Beef Cattle—Dull, with quotations as follows: best on sale \$4.50@5.12, generally rated first-class \$4.00@4.37; medium or good fair quality \$3.00@4.00; ordinary thin steers, oxen and cows \$2.00@3.00; *Milch Cows* \$20@35 a head. *Steers.*—Demand moderate. We quote them at 50¢ cts. \$ lb. nut. *Sheep.*—Fairly active. We quote butchers' sheep at 34¢@44 cents; stock ewes \$2.00@3.00 \$ head. *Lambs* 40¢ cts. \$ lb. gross.

Produce.—Prices are as follows for the articles named below, viz: Apples, \$ bri., \$1.50; Beans—N. Y. medium, \$ bus., \$1.55@1.65; Peas, black-eye, \$ bus., \$1.30@1.40; Peas, Western green, \$ bus., \$1.15@1.30; Potatoes, new, \$ bri., \$2; do. do. \$ bus., 70¢@80 cents; do. Sweet, \$ bri., \$1.30@1.40; Onions, \$ bri., \$1.25; Beeswax, \$ lb., 25¢@26 cents; Ginseng, \$ lb., 70 cents; Seneca Root, \$ lb., 55¢@58 cents; Virginia Snake, \$ lb., 10¢@12 cents; Feathers, \$ lb., 35¢@42 cents; Hides—dry country, \$ lb., 18¢@16 cents; Sheep's pelts, each, 50 cents@1.50.

Wool.—Unwashed, coarse, \$ lb., 25¢@26 cents; do. do. fine \$ lb., 28¢@34 cents; do. tubwashed, coarse \$ lb., 33¢@35 cents; do. do. fine \$ lb., 33¢@35 cents; do. fleece-washed 35¢@36 cents.

Provisions.—Weak and declining. We quote as follows: Bulk shoulders, packed, 5½ cts.; do. L. C. Sides, do., 6½ cts.; do. C. R. Sides, do., 5½ cts.; Bacon Shoulders, do., 6 cts.; do. C. R. Sides, do., 7½ cts.; do. Hams, sugar-cured, 13¢@14 cts.; do. Shoulders, do., 7½¢@7½ cts.; do. Breasts, 8½ cts.; Lard, refined, tierces, 8 cts.; Mess Pork \$ bri., \$10.00. *Butter.*—Choice Western, in active demand. We quote Western tubs, good to choice 13¢@19 cts.; glades, selections, 16¢@18 cts. *Cheese*—N. Y. State good to choice 8½¢@9½ cts.; Western 7¼¢@8½ cts. *Eggs*—18 cts. *Poultry*—Turkeys at 80¢@10 cts. \$ lb.; do. Ducks at \$2.50@3, and do. Chickens at \$2.50@3 for old and young \$ do.

Tobacco.—In full demand, and Maryland and Ohio are firm. The French contract for Maryland is nearly filled, but the German buyers take all desirable lots offering. We quote: Maryland inferior and frosted \$2@3; do. sound common \$2.50@3; do. good common \$3.50@4; do. middling \$4@7; do. good fine and red \$4@10; do. fancy \$10@12; do. upper country \$4@5; do. ground leaves \$2@3; Virginia, common and good lugs, \$3@5; common to med. leaf \$6@8; fair to good leaf \$8@10; selections \$12@16.

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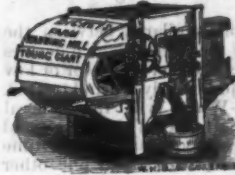
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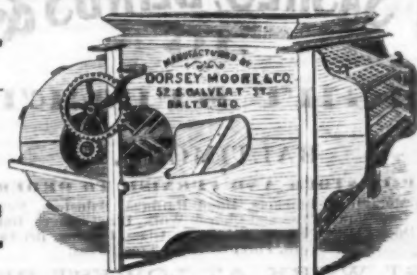
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EXPRESSLY FOR WHEAT.

This article is very rich in AMMONIA, SOLUBLE PHOSPHATE and POTASH.

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**Dissolved Bone Phosphate,
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1858



1878

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CRIFFITH & TURNER, 41 & 43 N. Paca St., Baltimore.

Dissolution of Copartnership.

BALTIMORE, March 19th, 1878.

The Copartnership heretofore existing between the undersigned, under the name of **J. J. TURNER & CO.**, is this day **DISSOLVED**, by mutual consent. Either will sign in liquidation.

J. J. TURNER,
J. Q. A. HOLLOWAY.

The undersigned, engaged since 1858 in the manufacture of **FERTILIZERS**, as a member of the firm of **J. J. & F. TURNER**, BY WHOM the formulas and processes of manufacture of

"EXCELSIOR" AND "AMMONIATED PHOSPHATE"

Were originated, and since 1864 a member of the late firm of **J. J. TURNER & CO.**, relying upon his experience and personal reputation, hitherto acquired in the uniform excellence of these fertilizers, offers them IN HIS OWN NAME to the agricultural public.

Having secured the works of the old firm, 111 McElderry's Wharf, with the complete machinery, specially constructed for their uniform manipulation, he will continue the manufacture of **EXCELSIOR** and **AMMONIATED PHOSPHATE** on his own account, with his office adjoining the works, where he will be pleased to see his friends and patrons, assuring them that the **FERTILIZERS** manufactured BY HIM shall be of the same uniform and high standard quality as sold by the old firms since their introduction.

JOHN Q. A. HOLLOWAY.

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The most concentrated, universal and durable **FERTILIZER** ever offered to the Farmer—combining all the stimulating qualities of Peruvian Guano and the ever-durable fertilizing properties of Bones, in fine dry powder prepared expressly for drilling, and can be applied in any quantity, however small, per acre. An application of 100 pounds of "EXCELSIOR" is equal to 200 pounds of any other fertilizer or guano, and therefore fully 100 per cent. Cheaper.

Uniformity of Quality Guaranteed. Every Bag of Genuine Excelsior is branded as above, the Analysis and my name in Red Letters. Price \$16 per Ton.

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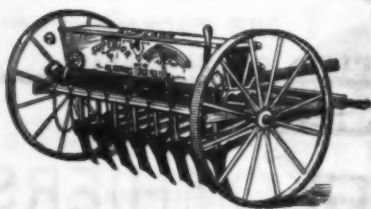
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DR. GILPIN—After carefully examining the formula of your Sugar-Coated Pills, I feel it but justice to say, that the combination is certainly perfect, and comprises the only remedies I ever believed were the proper ones to be used in diseases of a bilious origin. I shall take pleasure in recommending them not only to my patients, but the entire medical profession.

Yours truly,

J. M. WISTAR, M. D.

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We could fill several pages with certificates, &c., from prominent men throughout the country, but prefer to let the Pills in the future, as they have in the past, rest entirely on their own merit—knowing that wherever they are known their use will pass down from generation to generation.

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In this vicinity, of some particular kinds, a better selection can be made than elsewhere, while superior facilities exist for their safe and prompt shipment. Especial attention will be given to the selection from the stocks of reliable breeders, and the careful shipment of such animals, fowls, &c. as may be ordered. Terms cash, (or its equivalent.) All who have improved stock for sale, and those who wish to purchase, are invited to address

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AMMONIATED BONE SUPER PHOSPHATE.

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Ammonia,	3.30	
Soluble Phosphate of Lime,	23.91	
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Potash,	4.07	

Composed of the most concentrated materials, it is

Richer in Ammonia and Soluble Phosphates THAN ANY OTHER FERTILIZER SOLD.

And is made with the same care and supervision as our EXCELSIOR, its only competitor.—Uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags.

Farmers can only be secure from inferior imitations by seeing that every Bag is branded with our NAME and the ANALYSIS in RED LETTERS.

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We sell Goods direct to the people at jobbing prices, cheaper than the country stores buy them wholesale on the credit system, and save all the profit of the Middle-men.

Buy your Goods from first hands, the same as dealers do, and save what they add to the prices to pay their expenses, and to give them a profit.

We do a Jobbing Trade, selling Goods at the lowest wholesale prices, only we sell direct to the people in clubs or otherwise, instead of to dealers.

WHY, AND HOW WE SELL SO CHEAP.

We have pursued the C. O. D. plan for years; we have built up a good paying trade; it is popular with our customers. We know that by selling Goods on this plan we give our customers better bargains than on the old plan of credit. By giving better bargains we increase our trade.

EXCLUSIVELY FOR CASH.

We have buyers in New York, Philadelphia and Boston, who watch the market, wait for bargains, watch the bankrupt sales, the trade sales, and in the ways and places known to experienced buyers, and choose Goods for cash at the lowest figures possible. Our customers are not asked to pay for goods before they get them. The fact of being established so long, and selling such large amounts of Goods, gives us all the advantages that can accrue from such a plan; and we can now afford to sell much cheaper than we did at first.

The C. O. D. plan gives our customers all the benefits to be derived from CO-OPERATION. With the large sales that we make, we lower our prices of Goods to our patrons, and are simply taking advantage of available and legitimate avenues of trade to increase our business.

We are the exclusive Agents for

EDWIN C. BURT'S NEW YORK FINE SHOES FOR LADIES, MISSES AND GENTLEMEN.

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Gents' Buff Pegged Shoes.....	\$1.50	Gents' French Calf Hand Stitched Boots, Extra Quality.....	5.00
Gents' Buff Pegged Prince Alberts.....	1.75	Gents' Buff Stitched Boots, Extra Quality.....	3.75
Gents' Calf Sewed Prince Alberts.....	2.25	Gents' Kip.....	3.75
Gents' French Calf English Ties, Sewed.....	2.75	Gents' Kip, Extra Quality.....	3.50
Gents' Lasting Gaiters.....	1.50	Gents' Extra Quality Water Proof Boots.....	3.75
Gents' Buff Pegged Congress.....	3.00	Gents' Heavy Plough Shoes.....	1.75
Gents' Buff Sewed Congress.....	2.00	Gents' Extra Quality Plough Shoes.....	1.85
Gents' Buff Plain Congress.....	1.60	Gents' Heavy Pegged Balmorals.....	1.40
Gents' Calf Boxed Toe Sewed Congress Gaiters.....	2.00	Gents' Heavy Pegged Double Sole Balmorals.....	1.65
Gents' Fine Calf Sewed Congress Gaiters.....	2.25	Gents' Kip Boots.....	3.95
Gents' Calf Stitched Box Toe Gaiters.....	2.75	Gents' Extra Quality Kip Boots.....	4.00
Gents' French Hand Stitched Congress.....	3.75	Gents' Long Legged Kip Boots.....	3.75
Gents' Calf Congress Gaiters, Pegged.....	1.75	Gents' Long Legged Kip Boots, Extra Quality.....	4.00
Gents' Buff Pegged Boots.....	3.75	Russia Leather Water Proof Boots.....	3.50
Gents' Calf Pegged Boots, Extra Quality.....	3.80	Water Proof Hunting Boots.....	4.00
Gents' Calf Hand Sewed Boots.....	4.25	Gents' Split Leather Boots.....	2.50
Gents' Prime Stitched Calf Boots.....	4.50	Gents' Extra Heavy Split Leather Boots.....	3.00
Gents' Calf Pegged Boots, Extra Quality.....	3.80		

LADIES' DEPARTMENT.

Ladies' Lasting Congress Gaiters.....	1.00	Ladies' French Leather Button, Extra Quality.....	3.25
Ladies' Lasting Balmoral Gaiters.....	1.00	Ladies' French Kid Button Boots.....	3.75
Ladies' Lasting Kid Foxed Gaiters.....	1.25	Ladies' Kid Lace Balmorals.....	3.00
Ladies' Lasting French Kid Foxed Gaiters.....	1.50	Ladies' Morocco Balmorals, high cut.....	1.50
Ladies' Lasting Kid Foxed, Extra Quality.....	3.00	Ladies' Morocco Balmorals, high cut, Extra Qual.....	1.75
Ladies' Lasting Slippers.....	.90	Ladies' Morocco Balmorals, all styles.....	1.25
Ladies' Lasting Buskin Slippers.....	.75	Ladies' Calf Pegged High Cut Balmorals.....	3.15
Ladies' Kid Heeled Slippers.....	.75	Ladies' Calf Pegged High Cut, Extra Quality.....	3.75
Ladies' Kid Croquet Slippers.....	1.15	Ladies' Calf Sewed High Cut Balmorals.....	3.75
Ladies' Kid Newport Ties, Extra Quality.....	1.50	Ladies' Calf Sewed, Extra Quality Balmorals.....	3.00
Ladies' Lasting Button Boots, (plain).....	1.50	Ladies' Goat Leather Balmorals, Heavy.....	1.25
Ladies' Lasting Button Boots, Extra Fine.....	3.00	Ladies' Buff Pegged Shoes.....	3.00
Ladies' Lasting Kid Foxed Button.....	1.50	Ladies' Buff Pegged, Extra Quality.....	1.25
Ladies' Lasting Kid Foxed Button, Extra Fine.....	2.25	Ladies' Heavy Split Balmorals.....	.90
Ladies' French Leather Button Boots.....	1.75		

MISSES' AND BOYS' DEPARTMENT.

Misses' Lasting Balmorals, Plain.....	1.25	Misses' Kid Foxed Button.....	1.50
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Misses' Lasting Kid Foxed Balmorals.....	1.25	Misses' Calf Sewed Balmorals.....	1.35
Misses' Fine Morocco Balmorals.....	1.25	Ladies' and Misses' White Kid Boots, Slippers and Fancy Shoes of all Styles on hand.....	
Misses' Fine Kid Balmorals.....	1.37	Boy's Heavy Kip Boots.....	1.50
Boy's Calf Pegged and Sewed Balmorals.....	1.25	Boy's Kip Boots, Extra Quality.....	2.00
Boy's Calf Sewed Congress Gaiters.....	1.50	Boy's Fine Pegged Boots.....	1.75
Boy's Calf Pegged Congress.....	1.40		

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OIL VITRIOL.

**MANUFACTURERS AND MANIPULATORS OF PHOSPHATES
ON ORDERS AND FORMULAS FURNISHED BY
OUR FRIENDS.**

Having completed extensive improvements and additions to our Works, giving us increased facilities, we are now prepared to execute orders with greater promptness, and deliver goods in much better mechanical condition than heretofore.

We offer to the Trade the following Goods, all of which are absolutely Free from Adulteration :

DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

DISSOLVED SOUTH AMERICAN BONE ASH.

Containing 40 to 44 per cent. Soluble Bone Phosphate.

DISSOLVED SOUTH CAROLINA PHOSPHATE.

Containing 27 to 30 per cent. Soluble Bone Phosphate.

To meet the demand for a high-grade Fertilizer, we are offering **SLINGLUFF'S NATIVE SUPER-PHOSPHATE**—prepared entirely from Animal Bone—highly ammoniated.

Also, **SLINGLUFF'S No. 1 AMMONIATED SUPER-PHOSPHATE.** This we can confidently recommend as one of the best fertilizers sold in the market at a low price.

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STANDARD FERTILIZERS

FOR THE WHEAT CROP.

SOLUBLE SEA ISLAND GUANO,

Well-known and of undoubted excellence.

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A high-grade Fertilizer of known merit.

Ammoniated Alkaline Phosphate,

An article specially prepared for Wheat, and sold on satisfactory terms to Grangers. Endorsed by the Patrons, who have used it for the past four years. For sale by Grange Agents at RICHMOND, NORFOLK, PETERSBURG, ALEXANDRIA, and BALTIMORE.

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 SPECIAL COMPOUNDS PREPARED ON ORDERS.

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